

**PRODUCT SPECIFICATIONS**

**Cutoff** 45° visual cutoff to lamp and lamp image.

**Trims Style** Trim Ring, Self Flanged and Flangeless Trims utilize torsion spring retention for tight, secure fit to ceiling • Trim ring features beveled knife edge for clean ceiling interface • Self Flanged reflectors with polished or optional white painted flange

**Socket** Medium base porcelain socket with nickel plated copper screw shell.

**Lamp** One 50W PAR20 or 75W PAR16 lamp max. (See trim for max. lamp rating)

**Adjustability** Acu-Aim™ precision geared hot-aiming achieves 370° rotation, 40° tilt • Optimized center lamp beam optics translates lamp forward as it is aimed off nadir, insuring maximum light and low brightness • Black aiming mechanism with shield prevents visibility into fixture and preserves dark aperture • Shield hinges out of way to facilitate maintenance.

**Codes/Labels** UL and cUL listed • IC13N rated for direct contact with insulation, through-branch wiring, v damp locations (wet location with approved trims) • Meets energy code Air Leakage requirements per ASTM E283 • Product thermally protected • Union made.

**Proprietary Bar Hanger System** Patent pending Pro-VI™, telescoping bar hanger system with locking set screws, permits quick placement of housing within 24" O.C. joists or suspended ceilings • Robust bar eliminates flexing regardless of fixture position • Integral T-bar notch with locking tabs secures housing to suspended ceiling grid • Captive bugle-headed ring shank nail for quick one-step installation • Bar Hanger foot aligns to bottom of construction joist and breaks away for use in suspended ceilings.

**Junction Box** IC13N rated for 4 No. 12 AWG 90° C through branch circuit conductors. • TC13N rated for 8 No. 12 AWG 90° C through branch circuit conductors. Includes (5) 1/2", (1) 3/4", and (4) Non-metallic sheathed cable knock-outs • Push-in electrical connectors for field connections.

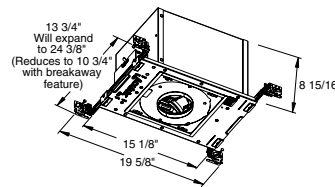
**Housing/Mounting Frame** Steel plaster frame and aluminum housing painted black for visually dark interior • V-Notch in plaster frame aids fixture alignment during installation • Patent pending Tru-Line™ Adjustment Mechanism featuring +/- 1/2" translation aids fixture alignment after installation, prior to drywall.

**Ceiling Thickness** 1/2" – 2" ceiling.

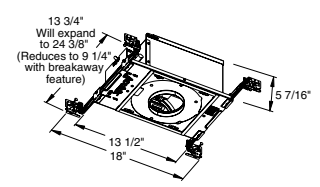
Specification subject to change without notice.

**3" PAR16/PAR20 UNIVERSAL RECESSED ADJUSTABLE/DOWNLIGHT/WALL WASH**

PAR16 or PAR20 Halogen  
**IC13N / TC13N**



**IC13N**



**TC13N**

4 1/4" CEILING CUTOUT  
 (4 3/8" FOR FLANGELESS)

**ORDERING INFORMATION**

Example: IC13N 3ABV BS WHFM FMA3/087

HOUSING INFO

| Series / Housing Style |  |
|------------------------|--|
| IC13N                  | 3" Aculux Round PAR16/PAR20 IC Air Tight |
| TC13N                  | 3" Aculux Round PAR16/PAR20 Non-IC       |

TRIM OPTIONS

| Trim Style  | Reflector Finish         | Flange Style / Finish                             | Environment             | Ceiling Installation                            |
|---|--------------------------|---|-------------------------|---|
| <i>ADJUSTABLE ACCENT</i>                                  |                          | <i>FLANGED</i>                                    | <b>WET</b> Wet location | <i>SELF-FLANGED</i>                             |
| <b>3AC</b> <sup>3</sup> Angle-Cut Reflector 45°           | <b>BS</b> Black Specular | <b>SF</b> Self Flanged (same finish as reflector) |                         | — Ceiling ≤ .875"                               |
| <b>3ASLOT</b> <sup>3</sup> Slot Cut Reflector 45°         | <b>CD</b> Clear Diffuse  | <b>WHSF</b> Self Flanged, White painted flange    |                         | <b>CTA3/125</b> Ceiling 0.875" - 1.25"          |
| <b>3AC20</b> <sup>3</sup> Shallow Angle-Cut Reflector 20° | <b>CS</b> Clear Specular | <b>BLSF</b> Self Flanged, Black painted flange    |                         | <b>CTA3/163</b> Ceiling 1.25" - 1.625"          |
| <b>3ABAF</b> <sup>1</sup> Angle-Cut Baffle                | <b>WTD</b> Wheat Diffuse | <b>WHR</b> White Trim Ring                        |                         | <b>CTA3/200</b> Ceiling 1.625" - 2"             |
| <b>3ABV</b> <sup>2</sup> Adjustable Bevel                 | <b>B</b> Black Paint     | <b>SCR</b> Satin Chrome Trim Ring                 |                         | <i>FLANGELESS, GYPSUM</i>                       |
| <b>3APIN</b> <sup>4</sup> Adjustable Pinhole, 1 1/4"      | <b>W</b> White Paint     | <b>ABZR</b> Aged Bronze Trim Ring                 |                         | <b>FMA3/087</b> Ceiling ≤ .875"                 |
| <b>3APINLG</b> <sup>4</sup> Adjustable Pinhole, 1 3/4"    |                          | <i>FLANGELESS</i> <sup>5</sup>                    |                         | <b>FMA3/125</b> Ceiling 0.875" - 1.25"          |
| <b>3AOVAL</b> <sup>2</sup> Adjustable Slot Pinhole        |                          | <b>FM</b> Flangeless                              |                         | <b>FMA3/163</b> Ceiling 1.25" - 1.625"          |
|   |                          | <b>WHFM</b> Flangeless, White trim                |                         | <i>FLANGELESS, WOOD/STONE/TILE</i> <sup>6</sup> |
|   |                          | <b>BLFM</b> Flangeless, Black trim                |                         | <b>SFM3/087 (B,W)</b> Ceiling ≤ 0.875"          |
|   |                          |   |                         | <b>SFM3/125 (B,W)</b> Ceiling 0.875" - 1.25"    |
|   |                          |   |                         | <b>SFM3/163 (B,W)</b> Ceiling 1.25" - 1.625"    |

NOTES

**Ordering Notes**








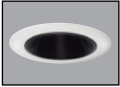

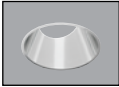















- <sup>1</sup> Available with B, W, ABZR, WHR, SCR only.
- <sup>2</sup> Available with BS, BLSF, WHSF, BLFM, WHFM only.
- <sup>3</sup> Not available with BLSF, WHFM, BLFM.
- <sup>4</sup> Available with BS, ABZR, BLSF, SCR, WHSF, BLFM, WHFM only.
- <sup>5</sup> For Flangeless trims, specify flangeless ceiling installation (FMA3 or SFM3)
- <sup>6</sup> Specify finish : B = Black, W = White.

# 3" PAR16/PAR20 UNIVERSAL RECESSED ADJUSTABLE/DOWNLIGHT/WALL WASH

PAR16 or PAR20 Halogen

## IC13N / TC13N

### TRIM SELECTION

| ADJUSTABLE ACCENT |                                  |                            |  | MAX. LAMP RATING  |   |   |
|-------------------|----------------------------------|----------------------------|--|---|---|---|
| <b>3AC</b>        | Angle-Cut Reflector, 45°         | Aperture : 3 1/4"          |    |    |    |  *  |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3ASLOT</b>     | Slot Cut Reflector, 45°          | Aperture : 3 1/4"          |    |    |    |   |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3AC20</b>      | Shallow Angle-Cut Reflector, 20° | Aperture : 3 1/4"          |   |   |   |   |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3ABAF</b>      | Angle-Cut Baffle, 45°            | Aperture : 3 1/4"          |  |   |   |   |
|                   |                                  |                            | Trim Ring  |   |   |   |
| <b>3ABV</b>       | Adjustable Bevel, 45°            | Aperture : 1 3/4"          |  |  |  |  * |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3APIN</b>      | Adjustable Pinhole, 45°          | Aperture : 1 1/4"          |  |  |  |  * |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3APINLG</b>    | Adjustable Pinhole, 1 3/4", 45°  | Aperture : 1 3/4"          |  |  |  |   |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |
| <b>3AOVAL</b>     | Adjustable Slot Pinhole, 45°     | Aperture : 1 3/4" x 2 1/2" |  |  |  |   |
|                   |                                  |                            | Trim Ring  | Self-Flanged  | Flangeless  |   |

**IC-Rated (IC13N):** 60W PAR16, 50W PAR20

**IC-Rated WET Option (IC13N):** 45W PAR16, 50W PAR20

**Non-IC (TC13N):** 75W PAR16, 50W PAR20
















\* With WET option

**3" PAR16/PAR20 UNIVERSAL RECESSED  
ADJUSTABLE/DOWNLIGHT/WALL WASH**

PAR16 or PAR20 Halogen

**IC13N / TC13N**

**TRIM SELECTION (continued)**

| DOWNLIGHT    |                                 |                          |   |   | MAX. LAMP RATING  |  |   |
|--------------|---------------------------------|--------------------------|---|---|---|--|---|
| <b>3DP</b>   | <b>Parabolic Downlight Trim</b> | <b>Aperture : 3 1/4"</b> | <br>Trim Ring   | <br>Self-Flanged   | <br>Flangeless   |    | <b>IC-Rated (IC13N):</b><br>60W PAR16,<br>50W PAR20   |
| <b>3DBAF</b> | <b>Baffle Downlight Trim</b>    | <b>Aperture : 3 1/4"</b> | <br>Trim Ring   |   |   |  | <b>IC-Rated WET Option (IC13N):</b><br>45W PAR16,<br>50W PAR20  |
| <b>3DBV</b>  | <b>Downlight Bevel</b>          | <b>Aperture : 1 3/4"</b> | <br>Trim Ring  | <br>Flangeless    |   |     |   |
| <b>3DPIN</b> | <b>Downlight Pinhole</b>        | <b>Aperture : 1 1/4"</b> | <br>Trim Ring | <br>Flangeless   |   |   | <b>Non-IC (TC13N):</b><br>75W PAR16,<br>50W PAR20   |
| WALL WASH    |                                 |                          |   |   | MAX. LAMP RATING  |  |   |
| <b>3WW</b>   | <b>Lensed Wall Wash</b>         | <b>Aperture : 3 1/4"</b> | <br>Trim Ring | <br>Self-Flanged | <br>Flangeless |  | <b>IC-Rated WET Option (IC13N):</b><br>45W PAR16,<br>50W PAR20<br><b>Non-IC (TC13N):</b><br>75W PAR16,<br>50W PAR20 |

**ACCESSORIES**

| Cat. #                | Description                | Cat. #                 | Description                   |
|-----------------------|----------------------------|------------------------|-------------------------------|
| <b>CGF 200 MPINK</b>  | Med. Pink Color Filter     | <b>DGF 200 MAGEN</b>   | Magenta Dichroic Lens         |
| <b>CGF 200 WRED</b>   | Warm Red Color Filter      | <b>DGF 200 CYAN</b>    | Blue Green Dichroic Lens      |
| <b>CGF 200 DLBLUE</b> | Daylight Blue Color Filter | <b>DCCF 200 HL4250</b> | Daylight Blue Correction Lens |
| <b>CGF 200 MBLU</b>   | Med. Blue Color Filter     | <b>DIFF 200</b>        | Diffuse Spread Lens           |
| <b>CGF 200 MAMB</b>   | Med. Amber Color Filter    | <b>SOLITE 200</b>      | Uniformity Lens               |
| <b>CGF 200 MGRN</b>   | Med. Green Color Filter    | <b>UVF 200</b>         | UV Filter Lens                |
| <b>DGF 200 DRED</b>   | Red Dichroic Lens          | <b>PRISM 200</b>       | Prismatic Lens                |
| <b>DGF 200 MGRN</b>   | Med. Green Dichroic Lens   | <b>LSPREAD 200</b>     | Linear Spread Lens            |
| <b>DGF 200 MBLU</b>   | Med. Blue Dichroic Lens    | <b>HCLBL 200</b>       | Hexcell Louver                |
| <b>DGF 200 DYEL</b>   | Yellow Dichroic Lens       |                        |                               |

*To order, specify catalog number.*

\* With WET option

**3" PAR16/PAR20 UNIVERSAL RECESSED  
ADJUSTABLE TRIMS**

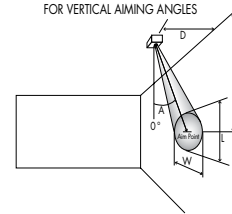
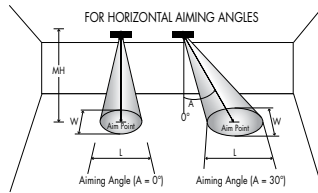
PAR16 or PAR20 Halogen

**IC13N / TC13N**

**PHOTOMETRICS**

**CBCP** • Centerbeam candlepower  
**FC** • Footcandles at beam center (aim point)

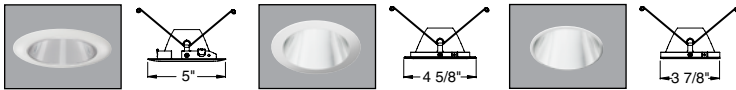
In vertical aiming applications, aim point (X) is determined by dividing distance from the wall (D) by the tangent of the desired aim angle (A) (0.5774 for 30°, 1.0 for 45°).



| Lamp              | Beam Type | Beam Spread° | Rated Life | CBCP | 0°                |     |      |      | 30°  |     |     | 30° |     |      |      | 40° |     |     |     |     |     |     |     |     |     |
|-------------------|-----------|--------------|------------|------|-------------------|-----|------|------|------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                   |           |              |            |      | MH                | FC  | L    | W    | FC   | L   | W   | D   | FC  | X    | L    | W   | FC  | X   | L   | W   |     |     |     |     |     |
| 50W PAR20 Halogen | SP        | 10°          | 2500       | 4600 | 6                 | 128 | 1.0  | 1.0  | 83   | 1.4 | 1.2 | 2   | 144 | 3.5  | 5.5  | 2.1 | 305 | 2.4 | 0.9 | 0.5 |     |     |     |     |     |
|                   |           |              |            |      | 8                 | 72  | 1.4  | 1.4  | 47   | 1.9 | 1.6 | 3   | 64  | 5.0  | 2.1  | 1.0 | 136 | 3.6 | 1.3 | 0.8 |     |     |     |     |     |
|                   |           |              |            |      | 10                | 46  | 1.7  | 1.7  | 30   | 2.3 | 2.0 | 4   | 36  | 6.9  | 2.9  | 1.4 | 76  | 4.8 | 1.7 | 1.1 |     |     |     |     |     |
|                   |           |              |            |      | 12                | 32  | 2.1  | 2.1  | 21   | 2.8 | 2.4 | 5   | 23  | 8.7  | 3.6  | 1.7 | 49  | 6.0 | 2.1 | 1.4 |     |     |     |     |     |
|                   | FL        | 30°          | 2500       | 1200 | 4                 | 75  | 2.1  | 2.1  | 49   | 2.9 | 2.5 | 2   | 38  | 3.5  | 5.5  | 2.1 | 80  | 2.4 | 2.9 | 1.7 |     |     |     |     |     |
|                   |           |              |            |      | 5                 | 48  | 2.7  | 2.7  | 31   | 3.7 | 3.1 | 3   | 17  | 5.2  | 8.2  | 3.2 | 35  | 3.6 | 4.3 | 2.5 |     |     |     |     |     |
|                   |           |              |            |      | 6                 | 33  | 3.2  | 3.2  | 22   | 4.4 | 3.7 | 4   | 9   | 6.9  | 10.9 | 4.3 | 20  | 4.8 | 5.8 | 3.3 |     |     |     |     |     |
|                   |           |              |            |      | 7                 | 25  | 3.8  | 3.8  | 16   | 5.1 | 4.3 | 5   | 6   | 8.7  | 13.7 | 5.4 | 13  | 6.0 | 7.2 | 4.2 |     |     |     |     |     |
|                   |           |              |            |      | 8                 | 19  | 4.3  | 4.3  | 12   | 5.9 | 5.0 | 6   | 4   | 10.4 | 16.4 | 6.4 | 9   | 7.2 | 8.7 | 5.0 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | 45W PAR16 Halogen | NSP | 10°  | 2000 | 5000 | 6   | 139 | 1.0 | 1.0 | 90   | 1.4  | 1.2 | 2   | 156 | 3.5 | 1.4 | 0.7 | 332 | 2.4 | 0.9 | 0.5 |
|                   |           |              |            |      |                   |     |      |      |      | 8   | 78  | 1.4 | 1.4 | 51   | 1.9  | 1.6 | 3   | 69  | 5.2 | 2.1 | 1.0 | 148 | 3.6 | 1.3 | 0.8 |
| 10                | 50        | 1.7          | 1.7        | 32   |                   |     |      |      |      | 2.3 | 2.0 | 4   | 39  | 6.9  | 2.9  | 1.4 | 83  | 4.8 | 1.7 | 1.1 |     |     |     |     |     |
| 12                | 35        | 2.1          | 2.1        | 23   |                   |     |      |      |      | 2.8 | 2.4 | 5   | 25  | 8.7  | 3.6  | 1.7 | 53  | 6.0 | 2.1 | 1.4 |     |     |     |     |     |
|                   |           |              |            |      | 14                | 26  | 2.4  | 2.4  | 17   | 3.3 | 2.8 | 6   | 17  | 10.4 | 4.3  | 2.1 | 37  | 7.2 | 2.6 | 1.6 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | NFL               | 27° | 2000 | 1400 | 3    | 156 | 1.4 | 1.4 | 101 | 2.0  | 1.7  | 1   | 175 | 1.7 | 2.3 | 1.0 | 372 | 1.2 | 1.4 | 0.8 |     |
|                   |           |              |            |      |                   |     |      |      | 5    | 56  | 2.4 | 2.4 | 36  | 3.3  | 2.8  | 2   | 44  | 3.5 | 4.6 | 1.9 | 93  | 2.4 | 2.9 | 1.7 |     |
| 7                 | 29        | 3.4          | 3.4        | 19   |                   |     |      |      | 4.6  | 3.9 | 3   | 19  | 5.2 | 7.0  | 2.9  | 41  | 3.6 | 4.3 | 2.5 |     |     |     |     |     |     |
| 9                 | 17        | 4.3          | 4.3        | 11   |                   |     |      |      | 5.9  | 5.0 | 4   | 11  | 6.9 | 9.3  | 3.8  | 23  | 4.8 | 5.8 | 3.3 |     |     |     |     |     |     |
|                   |           |              |            |      | 11                | 12  | 5.3  | 5.3  | 8    | 7.2 | 6.1 | 5   | 7   | 8.7  | 11.6 | 4.8 | 15  | 6.0 | 7.2 | 4.2 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | 60W PAR16 Halogen | NSP | 10°  | 2000 | 5400 | 6   | 150 | 1.0 | 1.0 | 97   | 1.4  | 1.2 | 2   | 169 | 3.5 | 1.4 | 0.7 | 359 | 2.4 | 0.9 | 0.5 |
|                   |           |              |            |      |                   |     |      |      |      | 8   | 84  | 1.4 | 1.4 | 55   | 1.9  | 1.6 | 3   | 75  | 5.2 | 2.1 | 1.0 | 159 | 3.6 | 1.3 | 0.8 |
| 10                | 54        | 1.7          | 1.7        | 35   |                   |     |      |      |      | 2.3 | 2.0 | 4   | 42  | 6.9  | 2.9  | 1.4 | 90  | 4.8 | 1.7 | 1.1 |     |     |     |     |     |
| 12                | 38        | 2.1          | 2.1        | 24   |                   |     |      |      |      | 2.8 | 2.4 | 5   | 27  | 8.7  | 3.6  | 1.7 | 57  | 6.0 | 2.1 | 1.4 |     |     |     |     |     |
|                   |           |              |            |      | 14                | 28  | 2.4  | 2.4  | 18   | 3.3 | 2.8 | 6   | 19  | 10.4 | 4.3  | 2.1 | 40  | 7.2 | 2.6 | 1.6 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | NFL               | 30° | 2000 | 1550 | 4    | 97  | 2.1 | 2.1 | 63  | 2.9  | 2.5  | 2   | 48  | 3.5 | 5.5 | 2.1 | 103 | 2.4 | 2.9 | 1.7 |     |
|                   |           |              |            |      |                   |     |      |      | 6    | 43  | 3.2 | 3.2 | 28  | 4.4  | 3.7  | 3   | 22  | 5.2 | 8.2 | 3.2 | 46  | 3.6 | 4.3 | 2.5 |     |
| 8                 | 24        | 4.3          | 4.3        | 16   |                   |     |      |      | 5.9  | 5.0 | 4   | 12  | 6.9 | 10.9 | 4.3  | 26  | 4.8 | 5.8 | 3.3 |     |     |     |     |     |     |
| 10                | 16        | 5.4          | 5.4        | 10   |                   |     |      |      | 7.3  | 6.2 | 5   | 8   | 8.7 | 13.7 | 5.4  | 16  | 6.0 | 7.2 | 4.2 |     |     |     |     |     |     |
|                   |           |              |            |      | 12                | 11  | 6.4  | 6.4  | 7    | 8.8 | 7.4 | 6   | 5   | 10.4 | 16.4 | 6.4 | 11  | 7.2 | 8.7 | 5.0 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | 75W PAR16 Halogen | NSP | 10°  | 2000 | 7500 | 6   | 208 | 1.0 | 1.0 | 135  | 1.4  | 1.2 | 2   | 234 | 3.5 | 1.4 | 0.7 | 498 | 2.4 | 0.9 | 0.5 |
|                   |           |              |            |      |                   |     |      |      |      | 8   | 117 | 1.4 | 1.4 | 76   | 1.9  | 1.6 | 3   | 104 | 5.2 | 2.1 | 1.0 | 221 | 3.6 | 1.3 | 0.8 |
| 10                | 75        | 1.7          | 1.7        | 49   |                   |     |      |      |      | 2.3 | 2.0 | 4   | 59  | 6.9  | 2.9  | 1.4 | 124 | 4.8 | 1.7 | 1.1 |     |     |     |     |     |
| 12                | 52        | 2.1          | 2.1        | 34   |                   |     |      |      |      | 2.8 | 2.4 | 5   | 38  | 8.7  | 3.6  | 1.7 | 80  | 6.0 | 2.1 | 1.4 |     |     |     |     |     |
|                   |           |              |            |      | 14                | 38  | 2.4  | 2.4  | 25   | 3.3 | 2.8 | 6   | 26  | 10.4 | 4.3  | 2.1 | 55  | 7.2 | 2.6 | 1.6 |     |     |     |     |     |
|                   |           |              |            |      |                   |     |      |      |      |     |     |     |     |      |      |     |     |     |     |     |     |     |     |     |     |
|                   |           |              |            |      | NFL               | 30° | 2000 | 1900 | 4    | 119 | 2.1 | 2.1 | 77  | 2.9  | 2.5  | 2   | 59  | 3.5 | 5.5 | 2.1 | 126 | 2.4 | 2.9 | 1.7 |     |
|                   |           |              |            |      |                   |     |      |      | 6    | 53  | 3.2 | 3.2 | 34  | 4.4  | 3.7  | 3   | 26  | 5.2 | 8.2 | 3.2 | 56  | 3.6 | 4.3 | 2.5 |     |
| 8                 | 30        | 4.3          | 4.3        | 19   |                   |     |      |      | 5.9  | 5.0 | 4   | 15  | 6.9 | 10.9 | 4.3  | 32  | 4.8 | 5.8 | 3.3 |     |     |     |     |     |     |
| 10                | 19        | 5.4          | 5.4        | 12   |                   |     |      |      | 7.3  | 6.2 | 5   | 10  | 8.7 | 13.7 | 5.4  | 20  | 6.0 | 7.2 | 4.2 |     |     |     |     |     |     |
|                   |           |              |            |      | 12                | 13  | 6.4  | 6.4  | 9    | 8.8 | 7.4 | 6   | 7   | 10.4 | 16.4 | 6.4 | 14  | 7.2 | 8.7 | 5.0 |     |     |     |     |     |

The beam spread in degrees and the beam "L" and "W" in the following tables are computed at 50% of centerbeam candlepower and represent areas of "effective illumination."

3DP Parabolic Downlight Trim



Trim Ring Self-Flanged Flangeless

# 3" PAR16/PAR20 UNIVERSAL RECESSED DOWNLIGHT

PAR16 or PAR20 Halogen

## IC13N / TC13N with 3DP Trim

### PHOTOMETRICS

#### PHOTOMETRIC REPORT

Catalog Number: IC13N 3DP CS WHR

Test Number: PT12092903

Total Luminaire Efficiency: 71.5%

Luminaire Spacing Criteria: 0.34

Luminaire: Clear specular Alzak® downlight trim. Open aperture.

Lamps: One 60PAR16/HAL/NFL30, rated at 650 total lumens.

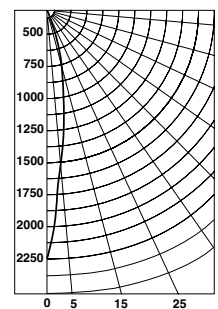
#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 62.5                    | 29.9                  | 2.1'          |
| 7'                                   | 45.9                    | 22.0                  | 2.4'          |
| 8'                                   | 35.1                    | 16.8                  | 2.7'          |
| 9'                                   | 27.8                    | 13.3                  | 3.1'          |
| 10'                                  | 22.5                    | 10.8                  | 3.4'          |
| 11'                                  | 18.6                    | 8.9                   | 3.8'          |
| 12'                                  | 15.6                    | 7.5                   | 4.1'          |
| 13'                                  | 13.3                    | 6.4                   | 4.5'          |
| 14'                                  | 11.5                    | 5.5                   | 4.8'          |
| 15'                                  | 10.0                    | 4.8                   | 5.2'          |

#### AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 33                | 30   | 28   |
| 5' x 5'           | 21                | 19   | 18   |
| 6' x 6'           | 15                | 13   | 12   |
| 7' x 7'           | 12                | 11   | 10   |
| 8' x 8'           | 9                 | 9    | 8    |
| 9' x 9'           | 7                 | 7    | 6    |
| 10' x 10'         | 5                 | 5    | 4    |
| 12' x 12'         | 4                 | 3    | 3    |



#### Candlepower Distribution (Candelas)

| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 7249    |        |
| 5°    | 1536    | 147    |
| 15°   | 722     | 205    |
| 25°   | 227     | 105    |
| 35°   | 13      | 8      |
| 45°   | 0       | 0      |
| 55°   | 0       | 0      |
| 65°   | 0       | 0      |
| 75°   | 0       | 0      |
| 85°   | 0       | 0      |

#### Luminance Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 0            | 0                      |
| 55         | 0            | 0                      |
| 65         | 0            | 0                      |
| 75         | 0            | 0                      |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 456    | 70.2  | 98.2     |
| 0-40°   | 465    | 71.5  | 100.0    |
| 0-60°   | 465    | 71.5  | 100.0    |
| 0-90°   | 465    | 71.5  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 465    | 71.5  | 100.0    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | PW | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |    |
| 0   | 85 | 85 | 85 | 85 | 83 | 83 | 83 | 83 | 79 | 79 | 79 | 76 | 76 | 76 | 73 | 73 | 73 | 71 |
| 1   | 82 | 81 | 79 | 78 | 80 | 79 | 78 | 77 | 76 | 75 | 74 | 74 | 73 | 72 | 71 | 71 | 70 | 69 |
| 2   | 79 | 77 | 75 | 73 | 78 | 76 | 74 | 72 | 73 | 72 | 71 | 71 | 70 | 69 | 70 | 69 | 68 | 67 |
| 3   | 77 | 74 | 71 | 69 | 76 | 73 | 70 | 68 | 71 | 69 | 67 | 69 | 68 | 66 | 68 | 66 | 65 | 64 |
| 4   | 74 | 71 | 68 | 66 | 73 | 70 | 67 | 65 | 68 | 66 | 64 | 67 | 65 | 64 | 66 | 64 | 63 | 62 |
| 5   | 72 | 68 | 65 | 63 | 71 | 67 | 65 | 62 | 66 | 64 | 62 | 65 | 63 | 61 | 64 | 62 | 61 | 60 |
| 6   | 70 | 65 | 62 | 60 | 69 | 65 | 62 | 60 | 64 | 62 | 60 | 63 | 61 | 59 | 62 | 60 | 59 | 58 |
| 7   | 68 | 63 | 60 | 58 | 67 | 63 | 60 | 58 | 62 | 60 | 58 | 61 | 59 | 57 | 61 | 59 | 57 | 56 |
| 8   | 66 | 61 | 58 | 56 | 65 | 61 | 58 | 56 | 60 | 58 | 56 | 60 | 57 | 56 | 59 | 57 | 55 | 55 |
| 9   | 64 | 59 | 56 | 54 | 64 | 59 | 56 | 54 | 58 | 56 | 54 | 58 | 56 | 54 | 57 | 55 | 54 | 53 |
| 10  | 62 | 58 | 55 | 53 | 62 | 57 | 54 | 53 | 57 | 54 | 52 | 56 | 54 | 52 | 56 | 54 | 52 | 52 |

#### PHOTOMETRIC REPORT

Catalog Number: TC13N 3DP CS WHR

Test Number: PT01100405

Total Luminaire Efficiency: 67.5%

Luminaire Spacing Criteria: 0.46

Luminaire: Clear specular Alzak® downlight trim. Open aperture.

Lamps: One 75PAR16/HAL/NFL30, rated at 900 total lumens.

#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 56.2                    | 25.8                  | 2.9'          |
| 7'                                   | 41.3                    | 19.0                  | 3.4'          |
| 8'                                   | 31.6                    | 14.5                  | 3.9'          |
| 9'                                   | 25.0                    | 11.5                  | 4.3'          |
| 10'                                  | 20.2                    | 9.3                   | 4.8'          |
| 11'                                  | 16.7                    | 7.7                   | 5.3'          |
| 12'                                  | 14.1                    | 6.5                   | 5.8'          |
| 13'                                  | 12.0                    | 5.5                   | 6.3'          |
| 14'                                  | 10.3                    | 4.7                   | 6.8'          |
| 15'                                  | 9.0                     | 4.1                   | 7.2'          |

#### AVERAGE INITIAL FOOTCANDLES

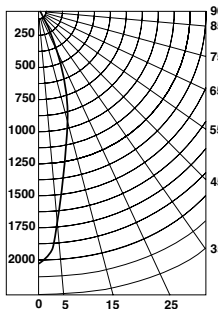
Reflectances: 80% Ceiling, 50% Walls, 20% Floors

| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 43                | 39   | 35   |
| 5' x 5'           | 27                | 25   | 23   |
| 6' x 6'           | 19                | 17   | 16   |
| 7' x 7'           | 15                | 14   | 13   |
| 8' x 8'           | 12                | 11   | 10   |
| 9' x 9'           | 9                 | 8    | 8    |
| 10' x 10'         | 7                 | 6    | 6    |
| 12' x 12'         | 5                 | 4    | 4    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | PW | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |    |
| 0   | 80 | 80 | 80 | 80 | 79 | 79 | 79 | 79 | 75 | 75 | 75 | 72 | 72 | 72 | 69 | 69 | 69 | 68 |
| 1   | 78 | 76 | 75 | 74 | 76 | 75 | 73 | 72 | 72 | 71 | 70 | 69 | 69 | 68 | 67 | 67 | 66 | 65 |
| 2   | 75 | 72 | 70 | 68 | 73 | 71 | 69 | 68 | 69 | 68 | 66 | 67 | 66 | 65 | 65 | 64 | 63 | 62 |
| 3   | 72 | 69 | 66 | 64 | 71 | 68 | 66 | 64 | 66 | 64 | 63 | 65 | 63 | 62 | 63 | 62 | 61 | 60 |
| 4   | 70 | 66 | 63 | 61 | 69 | 65 | 63 | 61 | 64 | 62 | 60 | 63 | 61 | 59 | 62 | 60 | 59 | 58 |
| 5   | 68 | 63 | 60 | 58 | 67 | 63 | 60 | 58 | 62 | 59 | 58 | 61 | 59 | 57 | 60 | 58 | 57 | 56 |
| 6   | 65 | 61 | 58 | 56 | 65 | 60 | 58 | 56 | 60 | 57 | 55 | 59 | 57 | 55 | 58 | 56 | 55 | 54 |
| 7   | 63 | 59 | 56 | 54 | 63 | 58 | 55 | 53 | 58 | 55 | 53 | 57 | 55 | 53 | 56 | 54 | 53 | 52 |
| 8   | 61 | 57 | 54 | 52 | 61 | 56 | 53 | 51 | 56 | 53 | 51 | 55 | 53 | 51 | 54 | 52 | 51 | 50 |
| 9   | 59 | 55 | 52 | 50 | 59 | 54 | 52 | 50 | 54 | 51 | 50 | 53 | 51 | 49 | 53 | 51 | 49 | 49 |
| 10  | 58 | 53 | 50 | 48 | 57 | 53 | 50 | 48 | 52 | 50 | 48 | 52 | 49 | 48 | 51 | 49 | 48 | 47 |



#### Candlepower Distribution (Candelas)

| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 2024    |        |
| 5°    | 1744    | 166    |
| 15°   | 930     | 264    |
| 25°   | 352     | 163    |
| 35°   | 23      | 15     |
| 45°   | 0       | 0      |
| 55°   | 0       | 0      |
| 65°   | 0       | 0      |
| 75°   | 0       | 0      |
| 85°   | 0       | 0      |

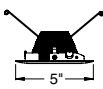
#### Luminance Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 0            | 0                      |
| 55         | 0            | 0                      |
| 65         | 0            | 0                      |
| 75         | 0            | 0                      |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 593    | 65.9  | 97.6     |
| 0-40°   | 608    | 67.5  | 100.0    |
| 0-60°   | 608    | 67.5  | 100.0    |
| 0-90°   | 608    | 67.5  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 608    | 67.5  | 100.0    |

3DBAF Baffle Downlight Trim



Trim Ring

# 3" PAR16/PAR20 UNIVERSAL RECESSED DOWNLIGHT

PAR16 or PAR20 Halogen

## IC13N / TC13N with 3DBAF Trim

### PHOTOMETRICS

#### PHOTOMETRIC REPORT

Catalog Number: IC13N 3DBAF W WHR

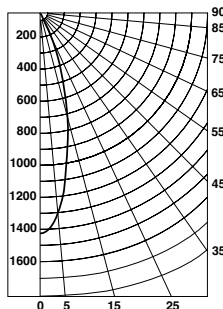
Test Number: PT12092901

Total Luminaire Efficiency: 71.7%

Luminaire Spacing Criteria: 0.5

Luminaire: White baffle trim. Open aperture.

Lamps: One 60PAR16/HAL/NFL30, rated at 650 total lumens.



| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 1437    |        |
| 5°    | 1324    | 126    |
| 15°   | 725     | 205    |
| 25°   | 222     | 103    |
| 35°   | 21      | 13     |
| 45°   | 8       | 6      |
| 55°   | 6       | 5      |
| 65°   | 4       | 4      |
| 75°   | 3       | 3      |
| 85°   | 0       | 0      |

#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 39.9                    | 18.0                  | 3.2'          |
| 7'                                   | 29.3                    | 13.2                  | 3.8'          |
| 8'                                   | 22.4                    | 10.1                  | 4.3'          |
| 9'                                   | 17.7                    | 8.0                   | 4.9'          |
| 10'                                  | 14.4                    | 6.5                   | 5.4'          |
| 11'                                  | 11.9                    | 5.3                   | 5.9'          |
| 12'                                  | 10.0                    | 4.5                   | 6.5'          |
| 13'                                  | 8.5                     | 3.8                   | 7.0'          |
| 14'                                  | 7.3                     | 3.3                   | 7.6'          |
| 15'                                  | 6.4                     | 2.9                   | 8.1'          |

#### Luminaire Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 517          | 1770                   |
| 55         | 482          | 1651                   |
| 65         | 456          | 1561                   |
| 75         | 491          | 1682                   |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 435    | 66.9  | 93.2     |
| 0-40°   | 448    | 68.9  | 96.1     |
| 0-60°   | 459    | 70.7  | 98.5     |
| 0-90°   | 466    | 71.7  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 466    | 71.7  | 100.0    |

#### AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 33                | 29   | 27   |
| 5' x 5'           | 21                | 19   | 17   |
| 6' x 6'           | 14                | 13   | 12   |
| 7' x 7'           | 12                | 11   | 10   |
| 8' x 8'           | 9                 | 8    | 8    |
| 9' x 9'           | 7                 | 6    | 6    |
| 10' x 10'         | 5                 | 5    | 4    |
| 12' x 12'         | 4                 | 3    | 3    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | PW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |
| 0   | 85 | 85 | 85 | 85 | 83 | 83 | 83 | 83 | 80 | 80 | 80 | 76 | 76 | 76 | 73 | 73 | 73 | 72 |
| 1   | 82 | 80 | 79 | 78 | 80 | 79 | 78 | 76 | 76 | 75 | 74 | 73 | 73 | 72 | 71 | 70 | 70 | 69 |
| 2   | 79 | 76 | 74 | 72 | 78 | 75 | 73 | 71 | 73 | 71 | 69 | 71 | 69 | 68 | 69 | 68 | 67 | 66 |
| 3   | 76 | 72 | 70 | 67 | 75 | 71 | 69 | 67 | 70 | 68 | 66 | 68 | 66 | 65 | 66 | 65 | 64 | 63 |
| 4   | 73 | 69 | 66 | 64 | 72 | 68 | 66 | 63 | 67 | 65 | 63 | 66 | 64 | 62 | 64 | 63 | 61 | 60 |
| 5   | 71 | 66 | 63 | 61 | 70 | 66 | 63 | 60 | 64 | 62 | 60 | 63 | 61 | 59 | 62 | 60 | 59 | 58 |
| 6   | 69 | 64 | 60 | 58 | 68 | 63 | 60 | 58 | 62 | 59 | 57 | 61 | 59 | 57 | 60 | 58 | 57 | 56 |
| 7   | 66 | 61 | 58 | 56 | 66 | 61 | 58 | 55 | 60 | 57 | 55 | 59 | 57 | 55 | 58 | 56 | 55 | 54 |
| 8   | 64 | 59 | 56 | 53 | 64 | 59 | 56 | 53 | 58 | 55 | 53 | 57 | 55 | 53 | 57 | 54 | 53 | 52 |
| 9   | 62 | 57 | 54 | 52 | 62 | 57 | 54 | 52 | 56 | 53 | 51 | 56 | 53 | 51 | 55 | 53 | 51 | 50 |
| 10  | 60 | 55 | 52 | 50 | 60 | 55 | 52 | 50 | 54 | 52 | 50 | 54 | 51 | 50 | 53 | 51 | 49 | 49 |

#### PHOTOMETRIC REPORT

Catalog Number: TC13N 3DBAF W WHR

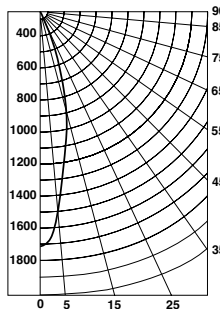
Test Number: PT01100401

Total Luminaire Efficiency: 68.6%

Luminaire Spacing Criteria: 0.51

Luminaire: White baffle trim. Open aperture.

Lamps: One 75PAR16/HAL/NFL30, rated at 900 total lumens.



| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 1702    |        |
| 5°    | 1582    | 151    |
| 15°   | 889     | 252    |
| 25°   | 348     | 161    |
| 35°   | 43      | 27     |
| 45°   | 11      | 8      |
| 55°   | 9       | 8      |
| 65°   | 6       | 6      |
| 75°   | 4       | 4      |
| 85°   | 0       | 0      |

#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 47.3                    | 21.1                  | 3.4'          |
| 7'                                   | 34.7                    | 15.5                  | 3.9'          |
| 8'                                   | 26.6                    | 11.9                  | 4.5'          |
| 9'                                   | 21.0                    | 9.4                   | 5.0'          |
| 10'                                  | 17.0                    | 7.6                   | 5.6'          |
| 11'                                  | 14.1                    | 6.3                   | 6.2'          |
| 12'                                  | 11.8                    | 5.3                   | 6.7'          |
| 13'                                  | 10.1                    | 4.5                   | 7.3'          |
| 14'                                  | 8.7                     | 3.9                   | 7.9'          |
| 15'                                  | 7.6                     | 3.4                   | 8.4'          |

#### Luminaire Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 729          | 2496                   |
| 55         | 712          | 2441                   |
| 65         | 656          | 2246                   |
| 75         | 731          | 2503                   |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 564    | 62.7  | 91.4     |
| 0-40°   | 591    | 65.7  | 95.7     |
| 0-60°   | 607    | 67.5  | 98.4     |
| 0-90°   | 617    | 68.6  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 617    | 68.6  | 100.0    |

#### AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 43                | 39   | 35   |
| 5' x 5'           | 28                | 25   | 22   |
| 6' x 6'           | 19                | 17   | 16   |
| 7' x 7'           | 16                | 14   | 13   |
| 8' x 8'           | 12                | 11   | 10   |
| 9' x 9'           | 9                 | 8    | 8    |
| 10' x 10'         | 7                 | 6    | 6    |
| 12' x 12'         | 5                 | 4    | 4    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | PW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |
| 0   | 82 | 82 | 82 | 82 | 80 | 80 | 80 | 80 | 76 | 76 | 76 | 73 | 73 | 73 | 70 | 70 | 70 | 69 |
| 1   | 78 | 77 | 75 | 74 | 77 | 75 | 74 | 73 | 73 | 72 | 71 | 70 | 69 | 68 | 68 | 67 | 66 | 65 |
| 2   | 75 | 72 | 70 | 68 | 74 | 71 | 69 | 67 | 69 | 67 | 66 | 67 | 66 | 65 | 65 | 64 | 63 | 62 |
| 3   | 72 | 69 | 66 | 64 | 71 | 68 | 65 | 63 | 66 | 64 | 62 | 64 | 63 | 61 | 63 | 62 | 60 | 59 |
| 4   | 70 | 65 | 62 | 60 | 69 | 65 | 62 | 60 | 63 | 61 | 59 | 62 | 60 | 58 | 61 | 59 | 58 | 57 |
| 5   | 67 | 62 | 59 | 57 | 66 | 62 | 59 | 57 | 61 | 58 | 56 | 60 | 57 | 56 | 59 | 57 | 55 | 54 |
| 6   | 65 | 60 | 56 | 54 | 64 | 59 | 56 | 54 | 58 | 56 | 54 | 57 | 55 | 53 | 57 | 55 | 53 | 52 |
| 7   | 63 | 57 | 54 | 52 | 62 | 57 | 54 | 52 | 56 | 53 | 51 | 55 | 53 | 51 | 55 | 53 | 51 | 50 |
| 8   | 60 | 55 | 52 | 50 | 60 | 55 | 52 | 50 | 54 | 51 | 49 | 53 | 51 | 49 | 53 | 51 | 49 | 48 |
| 9   | 58 | 53 | 50 | 48 | 58 | 53 | 50 | 48 | 52 | 49 | 47 | 52 | 49 | 47 | 51 | 49 | 47 | 46 |
| 10  | 57 | 51 | 48 | 46 | 56 | 51 | 48 | 46 | 50 | 48 | 46 | 50 | 47 | 46 | 50 | 47 | 46 | 45 |



# 3" PAR16/PAR20 UNIVERSAL RECESSED DOWNLIGHT

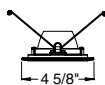
PAR16 or PAR20 Halogen

## IC13N / TC13N with 3DBV Trim

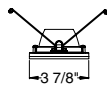
3DBV Downlight Bevel



Trim Ring



Flangeless



### PHOTOMETRICS

#### PHOTOMETRIC REPORT

Catalog Number: IC13N 3DBV BS WHSF

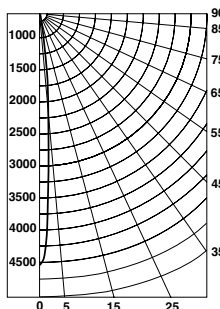
Test Number: PT12093003

Total Luminaire Efficiency: 55.5%

Luminaire Spacing Criteria: 0.16

Luminaire: 1 3/4" Regressed pinhole trim. Open aperture.

Lamps: One 60PAR16/HAL/NSP10, rated at 650 total lumens.



#### Candlepower Distribution (Candelas)

| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 4538    |        |
| 5°    | 2115    | 202    |
| 15°   | 445     | 126    |
| 25°   | 66      | 30     |
| 35°   | 4       | 2      |
| 45°   | 0       | 0      |
| 55°   | 0       | 0      |
| 65°   | 0       | 0      |
| 75°   | 0       | 0      |
| 85°   | 0       | 0      |

#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 126.0                   | 62.4                  | 1.0'          |
| 7'                                   | 92.6                    | 45.8                  | 1.2'          |
| 8'                                   | 70.9                    | 35.1                  | 1.3'          |
| 9'                                   | 56.0                    | 27.7                  | 1.5'          |
| 10'                                  | 45.4                    | 22.5                  | 1.7'          |
| 11'                                  | 37.5                    | 18.6                  | 1.8'          |
| 12'                                  | 31.5                    | 15.6                  | 2.0'          |
| 13'                                  | 26.8                    | 13.3                  | 2.2'          |
| 14'                                  | 23.2                    | 11.5                  | 2.3'          |
| 15'                                  | 20.2                    | 10.0                  | 2.5'          |

#### Luminaire Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 0            | 0                      |
| 55         | 0            | 0                      |
| 65         | 0            | 0                      |
| 75         | 0            | 0                      |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 358    | 55.2  | 99.4     |
| 0-40°   | 361    | 55.5  | 100.0    |
| 0-60°   | 361    | 55.5  | 100.0    |
| 0-90°   | 361    | 55.5  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 361    | 55.5  | 100.0    |

#### AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 26                | 24   | 23   |
| 5' x 5'           | 16                | 15   | 15   |
| 6' x 6'           | 11                | 11   | 10   |
| 7' x 7'           | 9                 | 9    | 8    |
| 8' x 8'           | 7                 | 7    | 6    |
| 9' x 9'           | 6                 | 5    | 5    |
| 10' x 10'         | 4                 | 4    | 4    |
| 12' x 12'         | 3                 | 3    | 3    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |    |
| 0   | 66 | 66 | 66 | 66 | 65 | 65 | 65 | 65 | 62 | 62 | 62 | 59 | 59 | 59 | 57 | 57 | 57 | 55 |
| 1   | 64 | 63 | 62 | 61 | 63 | 62 | 61 | 60 | 60 | 59 | 59 | 58 | 57 | 57 | 56 | 56 | 55 | 54 |
| 2   | 63 | 61 | 59 | 58 | 61 | 60 | 59 | 58 | 58 | 57 | 56 | 57 | 56 | 55 | 55 | 55 | 54 | 53 |
| 3   | 61 | 59 | 57 | 56 | 60 | 58 | 57 | 55 | 57 | 56 | 55 | 56 | 55 | 54 | 54 | 54 | 53 | 52 |
| 4   | 60 | 57 | 55 | 54 | 59 | 57 | 55 | 54 | 55 | 54 | 53 | 55 | 53 | 52 | 54 | 53 | 52 | 51 |
| 5   | 58 | 56 | 54 | 52 | 58 | 55 | 53 | 52 | 54 | 53 | 52 | 54 | 52 | 51 | 53 | 52 | 51 | 50 |
| 6   | 57 | 54 | 52 | 51 | 56 | 54 | 52 | 51 | 53 | 52 | 51 | 53 | 52 | 50 | 52 | 51 | 50 | 49 |
| 7   | 56 | 53 | 51 | 50 | 55 | 53 | 51 | 50 | 52 | 51 | 50 | 52 | 50 | 49 | 51 | 50 | 49 | 49 |
| 8   | 55 | 52 | 50 | 49 | 54 | 52 | 50 | 49 | 51 | 50 | 49 | 51 | 49 | 48 | 50 | 49 | 48 | 48 |
| 9   | 54 | 51 | 49 | 48 | 54 | 51 | 49 | 48 | 50 | 49 | 48 | 50 | 49 | 48 | 50 | 48 | 48 | 47 |
| 10  | 53 | 50 | 48 | 47 | 53 | 50 | 48 | 47 | 50 | 48 | 47 | 49 | 48 | 47 | 49 | 48 | 47 | 46 |

#### PHOTOMETRIC REPORT

Catalog Number: TC13N 3DBV BS WHSF

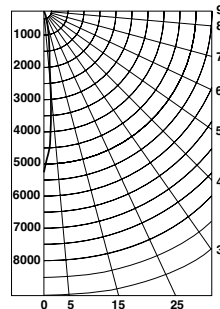
Test Number: PT01100501

Total Luminaire Efficiency: 63.5%

Luminaire Spacing Criteria: 0.22

Luminaire: 1 3/4" Regressed pinhole trim. Open aperture.

Lamps: One 75PAR16/CAP/NSP10, rated at 900 total lumens.



#### Candlepower Distribution (Candelas)

| Angle | Candela | Lumens |
|-------|---------|--------|
| 0°    | 5200    |        |
| 5°    | 2943    | 281    |
| 15°   | 660     | 187    |
| 25°   | 215     | 100    |
| 35°   | 7       | 4      |
| 45°   | 0       | 0      |
| 55°   | 0       | 0      |
| 65°   | 0       | 0      |
| 75°   | 0       | 0      |
| 85°   | 0       | 0      |

#### Initial Footcandles

| Distance to Illuminated Plane (Feet) | Footcandles Beam Center | Footcandles Beam Edge | Beam Diameter |
|--------------------------------------|-------------------------|-----------------------|---------------|
| 6'                                   | 144.5                   | 71.2                  | 1.2'          |
| 7'                                   | 106.1                   | 52.3                  | 1.3'          |
| 8'                                   | 81.3                    | 40.1                  | 1.5'          |
| 9'                                   | 64.2                    | 31.7                  | 1.7'          |
| 10'                                  | 52.0                    | 25.6                  | 1.9'          |
| 11'                                  | 43.0                    | 21.2                  | 2.1'          |
| 12'                                  | 36.1                    | 17.8                  | 2.3'          |
| 13'                                  | 30.8                    | 15.2                  | 2.5'          |
| 14'                                  | 26.5                    | 13.1                  | 2.7'          |
| 15'                                  | 23.1                    | 11.4                  | 2.9'          |

#### Luminaire Data

| Ang in Deg | Footlamberts | Candela/M <sup>2</sup> |
|------------|--------------|------------------------|
| 45         | 0            | 0                      |
| 55         | 0            | 0                      |
| 65         | 0            | 0                      |
| 75         | 0            | 0                      |
| 85         | 0            | 0                      |

#### Zonal Lumen Summary

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 567    | 63.1  | 99.3     |
| 0-40°   | 572    | 63.5  | 100.0    |
| 0-60°   | 572    | 63.5  | 100.0    |
| 0-90°   | 572    | 63.5  | 100.0    |
| 90-180° | 0      | 0.0   | 0.0      |
| 0-180°  | 572    | 63.5  | 100.0    |

#### AVERAGE INITIAL FOOTCANDLES

Reflectances: 80% Ceiling, 50% Walls, 20% Floors

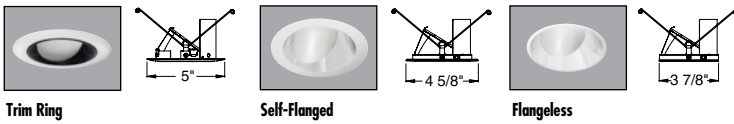
| Luminaire Spacing | Room Cavity Ratio |      |      |
|-------------------|-------------------|------|------|
|                   | RCR1              | RCR3 | RCR5 |
| 4' x 4'           | 41                | 38   | 35   |
| 5' x 5'           | 26                | 24   | 22   |
| 6' x 6'           | 18                | 17   | 16   |
| 7' x 7'           | 15                | 14   | 13   |
| 8' x 8'           | 12                | 11   | 10   |
| 9' x 9'           | 9                 | 8    | 8    |
| 10' x 10'         | 6                 | 6    | 6    |
| 12' x 12'         | 5                 | 4    | 4    |

#### COEFFICIENTS OF UTILIZATION - % (Zonal Cavity Method)

Effective Floor Reflectance 20%

| PCC | 80 |    | 70 |    | 50 |    | 30 |    | 10 |    | 0  |    |    |    |    |    |    |    |
|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|     | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 0  |    |    |    |    |    |    |
| 0   | 76 | 76 | 76 | 76 | 74 | 74 | 74 | 74 | 71 | 71 | 71 | 68 | 68 | 68 | 65 | 65 | 65 | 64 |
| 1   | 73 | 72 | 71 | 70 | 72 | 71 | 70 | 69 | 68 | 67 | 67 | 66 | 65 | 65 | 64 | 63 | 63 | 62 |
| 2   | 71 | 69 | 67 | 66 | 70 | 68 | 67 | 65 | 66 | 65 | 64 | 64 | 63 | 62 | 63 | 62 | 61 | 60 |
| 3   | 69 | 67 | 65 | 63 | 68 | 66 | 64 | 62 | 64 | 63 | 61 | 63 | 62 | 60 | 61 | 60 | 60 | 59 |
| 4   | 67 | 64 | 62 | 60 | 66 | 64 | 62 | 60 | 62 | 61 | 59 | 61 | 60 | 59 | 60 | 59 | 58 | 57 |
| 5   | 66 | 62 | 60 | 58 | 65 | 62 | 60 | 58 | 61 | 59 | 58 | 60 | 58 | 57 | 59 | 58 | 57 | 56 |
| 6   | 64 | 61 | 58 | 57 | 63 | 60 | 58 | 56 | 59 | 58 | 56 | 59 | 57 | 56 | 58 | 57 | 55 | 55 |
| 7   | 63 | 59 | 57 | 55 | 62 | 59 | 57 | 55 | 58 | 56 | 55 | 57 | 56 | 54 | 57 | 55 | 54 | 54 |
| 8   | 61 | 58 | 55 | 54 | 61 | 57 | 55 | 54 | 57 | 55 | 53 | 56 | 54 | 53 | 56 | 54 | 53 | 52 |
| 9   | 60 | 56 | 54 | 52 | 59 | 56 | 54 | 52 | 56 | 54 | 52 | 55 | 53 | 52 | 55 | 53 | 52 | 51 |
| 10  | 59 | 55 | 53 | 51 | 58 | 55 | 53 | 51 | 54 | 52 | 51 | 54 | 52 | 51 | 54 | 52 | 51 | 50 |

3WW Lensed Wall Wash



# 3" PAR16/PAR20 UNIVERSAL RECESSED LENSED WALL WASH

PAR16 or PAR20 Halogen  
IC13N / TC13N with 3WW Trim

**PHOTOMETRICS**

**PHOTOMETRIC REPORT**

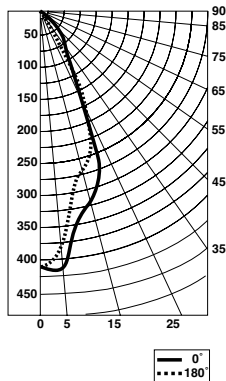
**Catalog Number:** IC13N 3WW CS WHR  
**Test Number:** PT12093001  
**Total Luminaire Efficiency:** 49.1%  
**Luminaire Spacing Criteria:** 0.68  
**Luminaire:** Clear Alzak® finish, lensed wall wash.  
**Lamps:** One 50PAR20/HAL/NFL30/RP

**Luminance Data**

| Ang<br>in Deg | Footlamberts | Candela/M <sup>2</sup> |
|---------------|--------------|------------------------|
| 45            | 961          | 3294                   |
| 55            | 0            | 0                      |
| 65            | 0            | 0                      |
| 75            | 0            | 0                      |
| 85            | 0            | 0                      |

**Zonal Lumen Summary**

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 188    | 34.1  | 69.5     |
| 0-40°   | 228    | 41.5  | 84.5     |
| 0-60°   | 263    | 47.8  | 97.4     |
| 0-90°   | 270    | 49.1  | 100.0    |
| 90-180° | 0      | 0     | 0        |
| 0-180°  | 270    | 49.1  | 100.0    |



**Candlepower Distribution (Candelas)**

| Degrees<br>Vertical | 0°<br>Wall Wash | 180°<br>Downlight |
|---------------------|-----------------|-------------------|
| 0°                  | 407             | 407               |
| 5°                  | 404             | 358               |
| 15°                 | 315             | 238               |
| 25°                 | 182             | 106               |
| 35°                 | 84              | 51                |
| 45°                 | 55              | 14                |
| 55°                 | 26              | 0                 |
| 65°                 | 16              | 0                 |
| 75°                 | 7               | 0                 |
| 85°                 | 0               | 0                 |

**Footcandles on Wall from Multiple Fixtures**

| Fixture Distance to Wall | 18" |     |     | 24" |     |     |   |   |   |   |   |   |
|--------------------------|-----|-----|-----|-----|-----|-----|---|---|---|---|---|---|
|                          | 18" | 24" | 18" | 24" | 18" | 24" |   |   |   |   |   |   |
| 1'                       | 9   | 8   | 9   | 8   | 6   | 8   | 5 | 4 | 4 | 4 | 3 | 4 |
| 2'                       | 12  | 11  | 12  | 10  | 8   | 10  | 9 | 9 | 9 | 7 | 7 | 7 |
| 3'                       | 11  | 11  | 11  | 9   | 8   | 9   | 9 | 9 | 9 | 7 | 6 | 7 |
| 4'                       | 10  | 10  | 10  | 8   | 8   | 8   | 8 | 9 | 8 | 6 | 6 | 6 |
| 5'                       | 8   | 8   | 8   | 6   | 6   | 6   | 8 | 8 | 8 | 6 | 6 | 6 |
| 6'                       | 6   | 6   | 6   | 5   | 5   | 5   | 7 | 7 | 7 | 5 | 5 | 5 |
| 7'                       | 5   | 5   | 5   | 4   | 4   | 4   | 6 | 6 | 6 | 4 | 4 | 4 |
| 8'                       | 4   | 4   | 4   | 3   | 3   | 3   | 5 | 5 | 5 | 4 | 4 | 4 |
| 9'                       | 3   | 3   | 3   | 3   | 3   | 3   | 4 | 4 | 4 | 3 | 3 | 3 |

\*Multipliers: Black - 0.7, Diffuse - 0.95

\*Note: Multipliers are provided for estimating purposes only.  
Use IES photometric files for precise photometric information.

**PHOTOMETRIC REPORT**

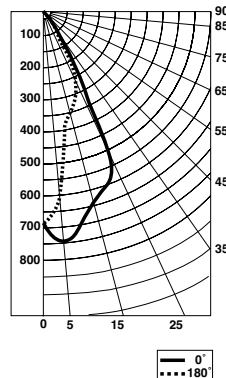
**Catalog Number:** TC13N 3WW CS WHR  
**Test Number:** PT01100407  
**Total Luminaire Efficiency:** 51.6%  
**Luminaire Spacing Criteria:** 0.47  
**Luminaire:** Clear Alzak® finish, lensed wall wash.  
**Lamps:** One 75PAR16/HAL/NFL30

**Luminance Data**

| Ang<br>in Deg | Footlamberts | Candela/M <sup>2</sup> |
|---------------|--------------|------------------------|
| 45            | 1401         | 4802                   |
| 55            | 0            | 0                      |
| 65            | 0            | 0                      |
| 75            | 0            | 0                      |
| 85            | 0            | 0                      |

**Zonal Lumen Summary**

| Zone    | Lumens | %Lamp | %Fixture |
|---------|--------|-------|----------|
| 0-30°   | 328    | 36.5  | 70.6     |
| 0-40°   | 400    | 44.4  | 86.1     |
| 0-60°   | 454    | 50.4  | 97.7     |
| 0-90°   | 465    | 51.6  | 100.0    |
| 90-180° | 0      | 0     | 0        |
| 0-180°  | 465    | 51.6  | 100.0    |



**Candlepower Distribution (Candelas)**

| Degrees<br>Vertical | 0°<br>Wall Wash | 180°<br>Downlight |
|---------------------|-----------------|-------------------|
| 0°                  | 667             | 667               |
| 5°                  | 732             | 571               |
| 15°                 | 633             | 317               |
| 25°                 | 399             | 160               |
| 35°                 | 169             | 72                |
| 45°                 | 98              | 21                |
| 55°                 | 46              | 0                 |
| 65°                 | 24              | 0                 |
| 75°                 | 11              | 0                 |
| 85°                 | 1               | 0                 |

**Footcandles on Wall from Multiple Fixtures**

| Fixture Distance to Wall | 18" |     |     | 24" |     |     |    |    |    |    |    |    |
|--------------------------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|
|                          | 18" | 24" | 18" | 24" | 18" | 24" |    |    |    |    |    |    |
| 1'                       | 16  | 14  | 16  | 13  | 9   | 13  | 8  | 7  | 8  | 7  | 5  | 7  |
| 2'                       | 22  | 20  | 22  | 18  | 15  | 18  | 15 | 15 | 15 | 12 | 11 | 12 |
| 3'                       | 24  | 24  | 24  | 19  | 16  | 19  | 17 | 16 | 17 | 13 | 12 | 13 |
| 4'                       | 21  | 21  | 21  | 16  | 16  | 16  | 18 | 18 | 18 | 13 | 14 | 13 |
| 5'                       | 16  | 16  | 16  | 12  | 12  | 12  | 17 | 16 | 17 | 12 | 13 | 12 |
| 6'                       | 12  | 12  | 12  | 9   | 9   | 9   | 14 | 14 | 14 | 11 | 11 | 11 |
| 7'                       | 9   | 10  | 9   | 7   | 7   | 7   | 12 | 12 | 12 | 8  | 9  | 8  |
| 8'                       | 7   | 8   | 7   | 6   | 6   | 6   | 9  | 9  | 9  | 7  | 7  | 7  |
| 9'                       | 6   | 6   | 6   | 5   | 5   | 5   | 8  | 8  | 8  | 6  | 6  | 6  |

\*Multipliers: Black - 0.7, Diffuse - 0.95

\*Note: Multipliers are provided for estimating purposes only.  
Use IES photometric files for precise photometric information.