

BALLABS CERTIFIED TEST REPORT NO.: 20778.0 DATE 04/01/19  
PREPARED FOR: IMPACT ARCHITECTURAL LIGHTING - SAINT LOUIS, MO  
DESCRIPTION: 39-18 LED 4.4"ARRAYS (BTM) w/FROSTED 3 PIECE .125"LENS  
61"DIA WHITE ALUM PENDANT RING LUMINAIRE-BTM DISTRIBUTION  
3- AC ELECTRONICS #AC50CD1.4APC7 @ 1050mA  
CATALOG NBR: P7460-40HI-NUL  
LAMP TYPE : LM-4.4-40K-80-54V

## CANDLEPOWER DISTRIBUTION

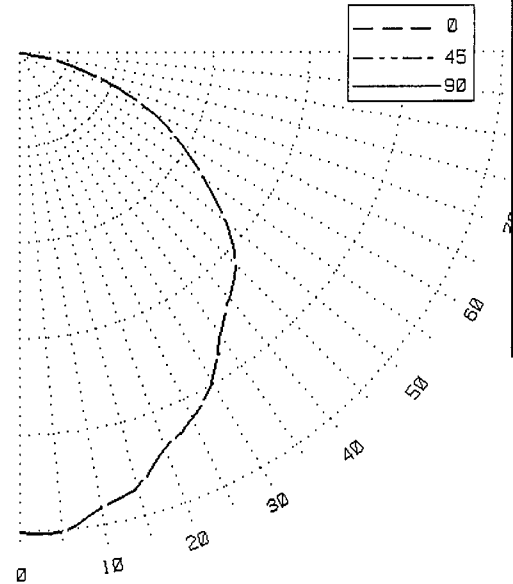
VERT  
ANG

AVERAGE CANDELA

|    |       |
|----|-------|
| 0  | 5400. |
| 5  | 5313. |
| 10 | 5202. |
| 15 | 5064. |
| 20 | 4747. |
| 25 | 4562. |
| 30 | 4297. |
| 35 | 3910. |
| 40 | 3642. |
| 45 | 3418. |
| 50 | 3009. |
| 55 | 2522. |
| 60 | 2074. |
| 65 | 1665. |
| 70 | 1179. |
| 75 | 703.  |
| 80 | 332.  |
| 85 | 73.   |
| 90 | 17.   |

ZONAL  
LUMENS

|        |
|--------|
| 507.2  |
| 1435.4 |
| 2111.6 |
| 2456.5 |
| 2646.9 |
| 2262.4 |
| 1652.4 |
| 743.4  |
| 79.9   |



*[Handwritten signature]*

**NVLAP<sup>®</sup>**  
TESTING

NVLAP LAB CODE 200921-0

## LUMEN SUMMARY

| ZONE              | LUMENS | %LAMP | %FIXT | ZONE   | LUMENS | %LAMP | %FIXT |
|-------------------|--------|-------|-------|--------|--------|-------|-------|
| 0- 30             | 4054.  | NA.   | 29.2  | 90-120 | 0.     | NA.   | .0    |
| 0- 40             | 6511.  | NA.   | 46.9  | 90-130 | 0.     | NA.   | .0    |
| 0- 60             | 11420. | NA.   | 82.2  | 90-150 | 0.     | NA.   | .0    |
| 0- 90             | 13896. | NA.   | 100.0 | 90-180 | 0.     | NA.   | .0    |
| TOTAL LUMINAIRE = |        |       |       | 0-180  | 13896. | NA.   | 100.0 |

IES SPACING CRITERIA: ADJACENT= 1.2 DIAGONAL= .8

THIS BALLABS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THIS CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

BALLABS CERTIFIED TEST REPORT NO.: 20778.0 DATE 04/01/19  
 PREPARED FOR: IMPACT ARCHITECTURAL LIGHTING - SAINT LOUIS, MO  
 DESCRIPTION: 39-18 LED 4.4"ARRAYS (BTM) w/FROSTED 3 PIECE .125"LENS  
 61"DIA WHITE ALUM PENDANT RING LUMINAIRE-BTM DISTRIBUTION  
 3- AC ELECTRONICS #AC50CD1.4APC7 @ 1050mA  
 CATALOG NBR: P7460-40HI-NUL  
 LAMP TYPE : LM-4.4-40K-80-54V

\*\*\*\*\*

LUMINANCES-CD/SQ-M  
 HORIZONTAL ANGLE

|       |       |
|-------|-------|
| VERT  | 0     |
| ANGLE |       |
| 45    | 2544. |
| 55    | 2314. |
| 65    | 2073. |
| 75    | 1429. |
| 85    | 442.  |

\*\*MAXIMUM BRIGHTNESSES NOT MEASURED\*\*

\*\*\*\*\*

ZONAL CAVITY COEFFICIENTS OF UTILIZATION

EFFECTIVE FLOOR CAVITY REFLECTANCE=.20

| CEILING | .80  |      |      |      | .70  |      |      |      | .50  |      |      |      | .30  |      |      |      | .10  |      |  |  | .00 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|-----|
| WALL    | .70  | .50  | .30  | .10  | .70  | .50  | .30  | .10  | .50  | .30  | .10  | .50  | .30  | .10  | .50  | .30  | .10  | .00  |  |  |     |
| RCR     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |  |     |
| 0       | 1.19 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.16 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 1.00 |  |  |     |
| 1       | 1.10 | 1.06 | 1.02 | .99  | 1.08 | 1.04 | 1.01 | .97  | 1.00 | .97  | .94  | .96  | .94  | .92  | .92  | .91  | .89  | .87  |  |  |     |
| 2       | 1.01 | .94  | .88  | .83  | .99  | .92  | .87  | .82  | .89  | .84  | .80  | .86  | .82  | .78  | .83  | .79  | .76  | .74  |  |  |     |
| 3       | .93  | .84  | .76  | .70  | .91  | .82  | .75  | .70  | .79  | .73  | .68  | .77  | .72  | .67  | .74  | .70  | .66  | .64  |  |  |     |
| 4       | .86  | .74  | .66  | .60  | .83  | .73  | .66  | .60  | .71  | .64  | .59  | .68  | .63  | .58  | .66  | .61  | .57  | .55  |  |  |     |
| 5       | .78  | .66  | .57  | .51  | .76  | .65  | .57  | .51  | .63  | .56  | .50  | .61  | .55  | .50  | .59  | .54  | .49  | .47  |  |  |     |
| 6       | .72  | .59  | .50  | .44  | .70  | .58  | .50  | .44  | .56  | .49  | .44  | .55  | .48  | .43  | .53  | .47  | .43  | .41  |  |  |     |
| 7       | .66  | .53  | .45  | .39  | .65  | .52  | .44  | .38  | .51  | .43  | .38  | .49  | .43  | .38  | .48  | .42  | .38  | .36  |  |  |     |
| 8       | .61  | .48  | .39  | .33  | .59  | .47  | .39  | .33  | .46  | .38  | .33  | .44  | .38  | .33  | .43  | .37  | .33  | .31  |  |  |     |
| 9       | .56  | .43  | .34  | .29  | .55  | .42  | .34  | .29  | .41  | .34  | .29  | .40  | .33  | .28  | .39  | .33  | .28  | .26  |  |  |     |
| 10      | .52  | .39  | .31  | .26  | .51  | .38  | .31  | .25  | .37  | .30  | .25  | .36  | .30  | .25  | .35  | .29  | .25  | .23  |  |  |     |

TESTED IN ACCORDANCE WITH CURRENT IES PROCEDURES

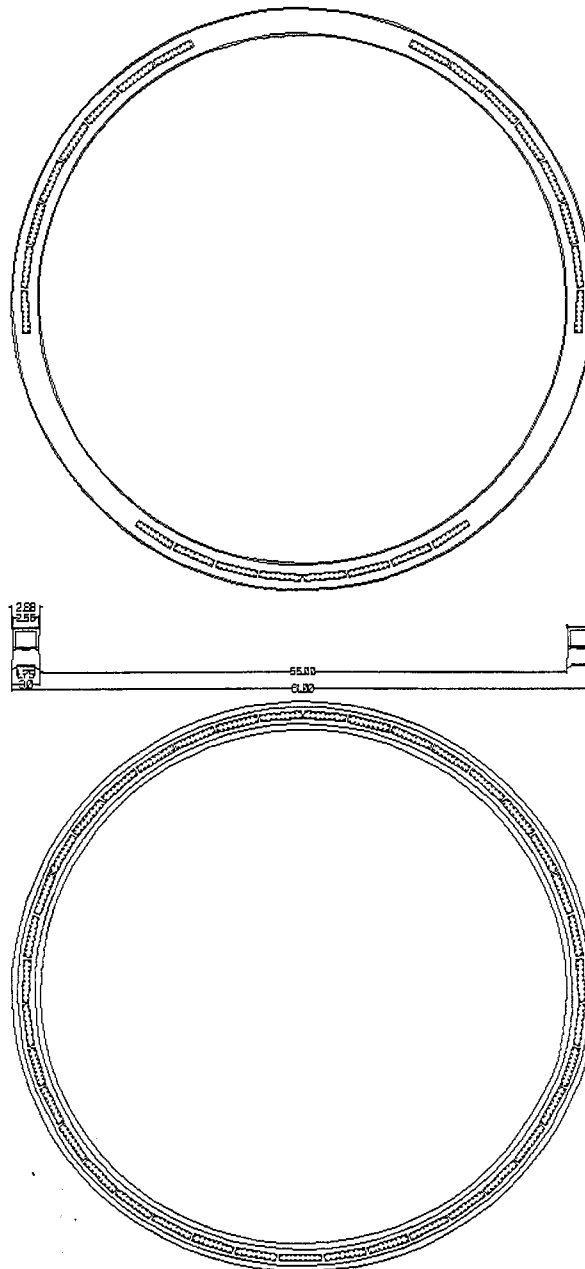
BALLABS CERTIFIED TEST REPORT NO.: 20778.0 DATE 04/01/19  
PREPARED FOR: IMPACT ARCHITECTURAL LIGHTING - SAINT LOUIS, MO  
DESCRIPTION: 39-18 LED 4.4"ARRAYS(BTM) w/FROSTED 3 PIECE .125"LENS  
61"DIA WHITE ALUM PENDANT RING LUMINAIRE-BTM DISTRIBUTION  
3- AC ELECTRONICS #AC50CD1.4APC7 @ 1050mA  
CATALOG NBR: P7460-40HI-NUL  
LAMP TYPE : LM-4.4-40K-80-54V

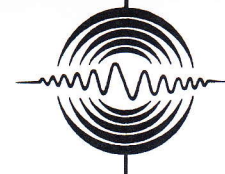
\*\*\*\*\*

ELECTRICAL CHARACTERISTICS 120.02V 1.5594A 186.7100W

LUMINOUS EFFICACY (LUMENS / WATTS) = 74.4

TESTED IN ACCORDANCE WITH CURRENT IES STANDARDS  
UTILIZING ABSOLUTE PHOTOMETRY PER LM-79-08

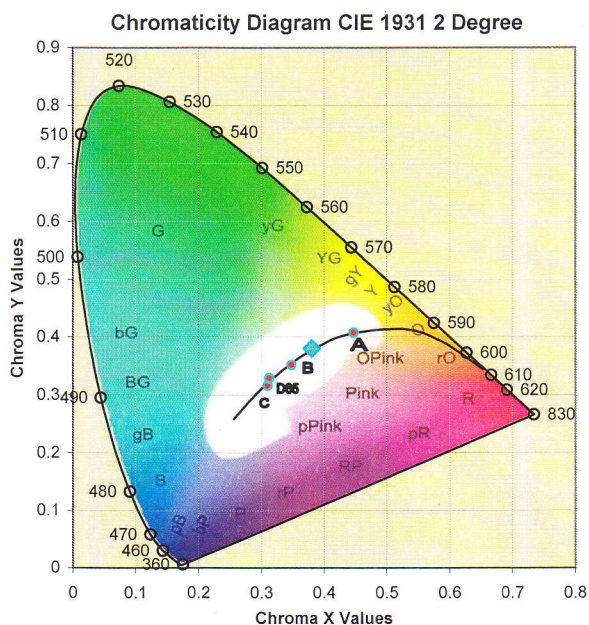




BALLABS CERTIFIED TEST REPORT NO.: 20778.0 A DATE 04/01/19  
PREPARED FOR: IMPACT ARCHITECTURAL LIGHTING - SAINT LOUIS, MO  
DESCRIPTION: 39-18 LED 4.4"ARRAYS (BTM) w/FROSTED 3 PIECE .125"LENS  
61"DIA WHITE ALUM PENDANT RING LUMINAIRE-BTM DISTRIBUTION  
3- AC ELECTRONICS #AC50CD1.4APC7 @ 1050mA  
CATALOG NBR: P7460-40HI-NUL  
LAMP TYPE : LM-4.4-40K-80-54V

|                       |          |
|-----------------------|----------|
| INPUT VOLTAGE (V)     | 120.02   |
| INPUT CURRENT (A)     | 1.5594   |
| INPUT WATTS (W)       | 186.7100 |
| POWER FACTOR          | 0.9976   |
| THDv (%)              | 0.268    |
| THDi (%)              | 5.871    |
| LUMINOUS EFFICACY-LPW | 74.4     |
| LUMINOUS FLUX- LUMENS | 13896    |
| CHROMA x              | 0.3808   |
| CHROMA y              | 0.3802   |
| CHROMA u              | 0.2240   |
| CHROMA v              | 0.5032   |
| DELTA uv (Duv)        | 0.0015   |
| CORR COLOR TEMP (K)   | 4015     |
| COLOR REND INDEX (RA) | 83.40    |
| COLOR REND INDEX (R9) | 8.2      |

| Wavelength (nm) | Spectral Flux mW/nm | Wavelength (nm) | Spectral Flux mW/nm |
|-----------------|---------------------|-----------------|---------------------|
| 350             | 1.5832              | 610             | 227.5369            |
| 360             | 1.7236              | 620             | 206.9811            |
| 370             | 2.0830              | 630             | 180.0911            |
| 380             | 1.9229              | 640             | 151.6586            |
| 390             | 1.8998              | 650             | 121.9280            |
| 400             | 2.5011              | 660             | 95.5649             |
| 410             | 4.5512              | 670             | 72.9490             |
| 420             | 13.9956             | 680             | 54.8989             |
| 430             | 42.4729             | 690             | 41.1454             |
| 440             | 114.0302            | 700             | 30.1654             |
| 450             | 242.2603            | 710             | 22.2355             |
| 460             | 155.5221            | 720             | 16.3379             |
| 470             | 100.3803            | 730             | 11.8388             |
| 480             | 79.5769             | 740             | 8.5837              |
| 490             | 95.9171             | 750             | 6.4075              |
| 500             | 124.1158            | 760             | 4.6956              |
| 510             | 144.7324            | 770             | 3.4674              |
| 520             | 156.7402            | 780             | 2.6392              |
| 530             | 168.2539            | 790             | 1.9913              |
| 540             | 180.1098            | 800             | 1.4785              |
| 550             | 193.3426            | 810             | 1.1298              |
| 560             | 206.9419            | 820             | 0.9076              |
| 570             | 220.2754            | 830             | 0.6959              |
| 580             | 232.1262            | 840             | 0.5152              |
| 590             | 238.7983            | 850             | 0.4555              |
| 600             | 238.3153            |                 |                     |

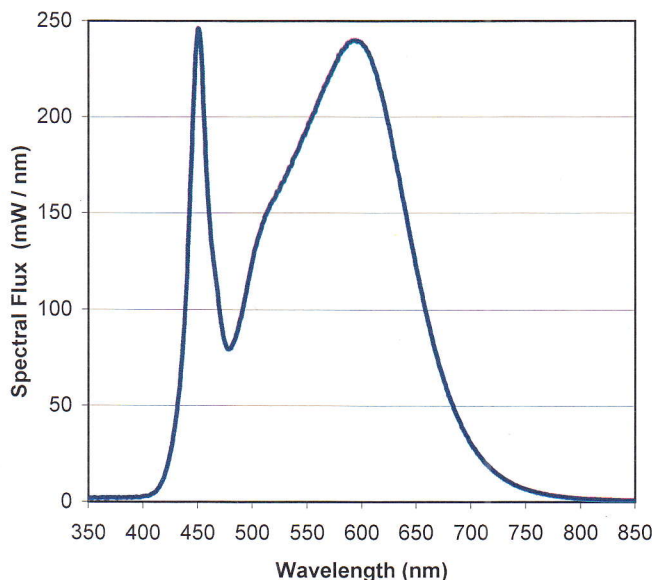


Data collected per LM79-08 using a Labsphere integrating sphere and 2100 spectroradiometer. Calibration of the spectroradiometer-sphere is traceable to the National Institute of Standards and Technology.



NVLAP LAB CODE 200921-0

Kelly C. Lerbs  
Vice President



THIS BALLABS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THIS CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.