

itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87603-GONIOPHOTOMETRY

PAGE: 1 OF 8

ISSUE DATE: 06/16/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: FSLEDV3YW/120 - FSLEDV3YW/120/TL

LUMINAIRE: CAST WHITE PAINTED METAL HOUSING/FACEPLATE, CAST WHITE PAINTED METAL CIRCUIT BOARD MOUNTING BASE WITH UNFINISHED CIRCUIT BOARD MOUNTING SURFACE, 1 WHITE CIRCUIT BOARD WITH 3 LEDS, CLEAR FLAT GLASS LENS.

LAMPS: THREE WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

LED DRIVER: INTEGRAL TO CIRCUIT BOARD

INPUT ELECTRICAL: 120.0 VOLTS, 3.03 WATTS, 0.0266 AMPS

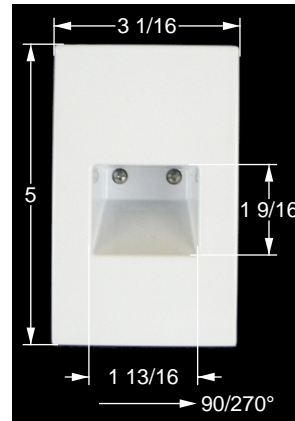
MOUNTING: RECESSED WALL

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LUMINAIRE.

NOTE 2: THIS REPORT WAS PRORATED FROM ITL REPORT NUMBER 87587. BOTH REPORTS REPRESENT A LUMINAIRE WITH 3 LEDS. FACTORS GENERATED FROM COMPARATIVE TESTING HAVE BEEN DERIVED FOR LIGHT OUTPUT, COLOR TEMPERATURE AND WATTAGE AND APPLIED TO THIS REPORT. ACTUAL PERFORMANCE MAY VARY.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET



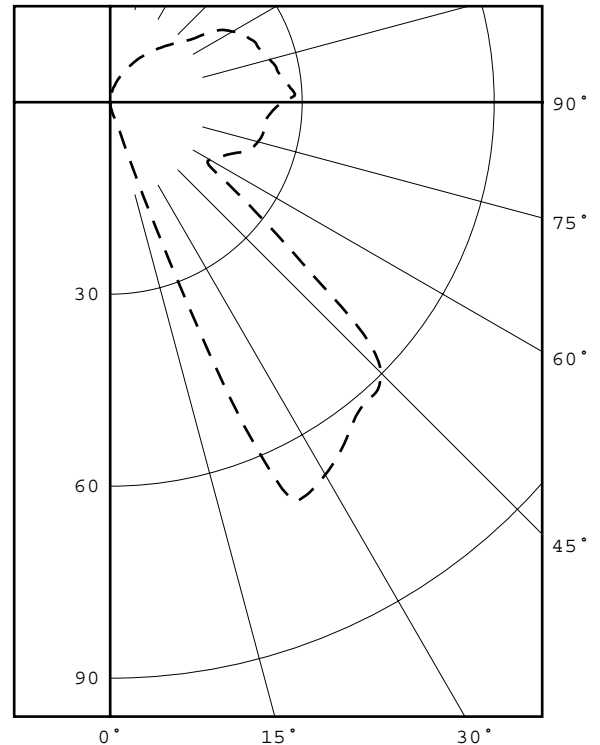
CANDELA DISTRIBUTION

FLUX

| | 0.0 | 45.0 | 90.0 | 135.0 | 180.0 | |
|-----|------|------|------|-------|-------|------|
| 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| 5 | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15 | 2.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.3 |
| 25 | 68.8 | 3.8 | 0.0 | 0.0 | 0.0 | 5.7 |
| 35 | 64.3 | 48.6 | 0.0 | 0.0 | 0.0 | 11.4 |
| 45 | 59.8 | 43.6 | 0.0 | 0.0 | 0.0 | 13.0 |
| 55 | 23.1 | 36.4 | 0.0 | 0.0 | 0.0 | 9.2 |
| 65 | 19.7 | 14.7 | 0.0 | 0.0 | 0.0 | 6.4 |
| 75 | 23.9 | 14.1 | 0.0 | 0.0 | 0.0 | 7.2 |
| 85 | 24.8 | 15.2 | 0.0 | 0.0 | 0.0 | 7.8 |
| 90 | 26.9 | 15.4 | 0.0 | 0.0 | 0.0 | |
| 95 | 28.1 | 15.2 | 0.0 | 0.0 | 0.0 | 8.1 |
| 105 | 25.8 | 14.4 | 0.0 | 0.0 | 0.0 | 7.3 |
| 115 | 23.8 | 12.4 | 0.0 | 0.0 | 0.0 | 6.1 |
| 125 | 19.1 | 9.9 | 0.0 | 0.0 | 0.0 | 4.4 |
| 135 | 12.5 | 7.5 | 0.0 | 0.0 | 0.0 | 2.7 |
| 145 | 8.7 | 5.3 | 0.0 | 0.0 | 0.0 | 1.6 |
| 155 | 5.4 | 3.4 | 0.0 | 0.0 | 0.0 | 0.7 |
| 165 | 2.7 | 1.7 | 0.0 | 0.0 | 0.0 | 0.2 |
| 175 | 0.7 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |

ZONAL LUMEN SUMMARY

| ZONE | LUMENS | %FIXT |
|--------|--------|-------|
| 0- 30 | 6.0 | 6.5 |
| 0- 40 | 17.4 | 18.8 |
| 0- 60 | 39.6 | 42.9 |
| 0- 90 | 61.1 | 66.1 |
| 90-120 | 21.6 | 23.4 |
| 90-130 | 26.0 | 28.1 |
| 90-150 | 30.3 | 32.8 |
| 90-180 | 31.3 | 33.9 |
| 0-180 | 92.3 | 100.0 |



LEGEND:
 0-deg - - - - -
 90-deg = = = = =
 180-deg - - - - -

EFFICACY = 30.5 lm/W
 CIE TYPE - SEMI-DIRECT
 PLANE : 0-DEG 90-DEG
 BEAM ANGLE (50%) : 30.3 X N/A DEGREES
 FIELD ANGLE (10%) : 132.3 X N/A DEGREES

Checked J. VILLANUEVA
 Approved R. BEATTIE
 Lighting Engineer



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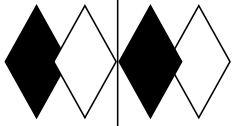
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| LUMINANCE DATA IN CANDELA/SQ M | | | |
|--------------------------------|------------------|-------------------|-------------------|
| ANGLE IN DEG | AVERAGE 0-DEG | AVERAGE 45-DEG | AVERAGE 90-DEG |
| 45 | 46345. | 48272. | 0. |
| 55 | 15567. | 35263. | 0. |
| 65 | 11744. | 12658. | 0. |
| 75 | 13720. | 11503. | 0. |
| 85 | 13729. | 11780. | 0. |



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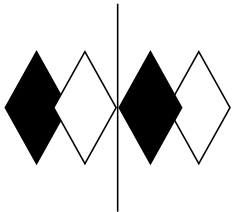
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CANDELA DISTRIBUTION
 LATERAL ANGLE

| | 0.0 | 5.0 | 15.0 | 25.0 | 35.0 | 45.0 | 55.0 | 65.0 | 75.0 | 85.0 | 90.0 | 112.5 | 135.0 | 157.5 |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2.5 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5.0 | 0.6 | 0.6 | 0.5 | 0.5 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7.5 | 1.0 | 1.0 | 1.0 | 0.9 | 0.8 | 0.6 | 0.4 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10.0 | 1.4 | 1.4 | 1.3 | 1.3 | 1.1 | 1.0 | 0.7 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12.5 | 1.9 | 1.9 | 1.8 | 1.7 | 1.4 | 1.2 | 1.0 | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15.0 | 2.5 | 2.5 | 2.4 | 2.2 | 1.9 | 1.5 | 1.1 | 0.8 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 17.5 | 3.4 | 3.4 | 3.3 | 2.9 | 2.3 | 1.9 | 1.5 | 1.0 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 20.0 | 20.7 | 18.7 | 9.6 | 4.2 | 3.1 | 2.3 | 1.7 | 1.1 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22.5 | 54.8 | 53.3 | 47.7 | 34.9 | 5.6 | 3.0 | 2.1 | 1.3 | 0.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 25.0 | 68.8 | 69.0 | 67.4 | 59.5 | 37.8 | 3.8 | 2.4 | 1.6 | 0.9 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27.5 | 68.3 | 68.5 | 68.1 | 67.6 | 61.0 | 16.1 | 2.9 | 1.8 | 1.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 30.0 | 67.2 | 67.4 | 67.1 | 66.8 | 68.5 | 32.3 | 3.5 | 2.0 | 1.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32.5 | 65.9 | 66.1 | 65.7 | 65.7 | 67.2 | 47.3 | 11.9 | 2.3 | 1.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 35.0 | 64.3 | 64.5 | 64.1 | 64.2 | 65.8 | 48.6 | 22.2 | 2.6 | 1.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 37.5 | 62.6 | 62.8 | 62.5 | 62.6 | 64.1 | 48.4 | 23.9 | 2.9 | 1.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 40.0 | 61.6 | 61.6 | 60.8 | 60.8 | 62.1 | 46.9 | 24.6 | 3.2 | 1.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 42.5 | 61.5 | 61.5 | 60.2 | 59.3 | 60.0 | 45.3 | 25.0 | 3.5 | 1.7 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45.0 | 59.8 | 59.8 | 59.6 | 58.6 | 57.9 | 43.6 | 24.2 | 4.0 | 1.8 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47.5 | 53.8 | 54.1 | 55.5 | 57.0 | 56.0 | 41.7 | 23.6 | 4.6 | 2.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50.0 | 39.3 | 39.7 | 44.6 | 51.9 | 53.8 | 40.0 | 22.7 | 5.6 | 2.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52.5 | 30.0 | 30.1 | 31.7 | 38.9 | 49.4 | 38.4 | 22.2 | 6.2 | 2.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55.0 | 23.1 | 23.3 | 25.7 | 28.7 | 37.7 | 36.4 | 21.6 | 6.5 | 2.6 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57.5 | 18.3 | 18.3 | 19.0 | 22.4 | 26.4 | 32.6 | 20.9 | 6.6 | 2.8 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60.0 | 18.0 | 17.9 | 17.7 | 17.6 | 21.1 | 25.8 | 20.0 | 6.8 | 2.9 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62.5 | 18.9 | 18.7 | 18.4 | 17.3 | 15.6 | 21.0 | 18.3 | 7.0 | 3.1 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 65.0 | 19.7 | 19.6 | 19.2 | 18.0 | 15.2 | 14.7 | 14.2 | 7.2 | 3.2 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5 | 20.9 | 20.7 | 20.1 | 18.7 | 15.9 | 12.8 | 11.2 | 7.4 | 3.4 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70.0 | 22.4 | 22.2 | 21.5 | 19.7 | 16.5 | 13.2 | 10.9 | 7.5 | 3.4 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5 | 23.4 | 23.2 | 22.4 | 20.5 | 17.1 | 13.7 | 11.2 | 7.6 | 3.5 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75.0 | 23.9 | 23.7 | 23.0 | 21.0 | 17.6 | 14.1 | 11.4 | 7.6 | 3.5 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5 | 24.3 | 24.2 | 23.4 | 21.4 | 18.0 | 14.5 | 11.6 | 7.6 | 3.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.0 | 24.4 | 24.3 | 23.6 | 21.5 | 18.3 | 14.7 | 11.7 | 7.7 | 3.7 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5 | 24.3 | 24.2 | 23.6 | 21.5 | 18.5 | 14.9 | 11.8 | 7.7 | 3.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85.0 | 24.8 | 24.6 | 24.0 | 22.0 | 18.9 | 15.2 | 11.9 | 7.8 | 3.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5 | 25.6 | 25.5 | 24.8 | 22.5 | 19.3 | 15.5 | 12.1 | 7.8 | 3.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90.0 | 26.9 | 26.7 | 26.1 | 22.8 | 19.1 | 15.4 | 11.9 | 7.7 | 3.8 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92.5 | 28.9 | 28.5 | 27.3 | 23.5 | 18.8 | 15.2 | 11.7 | 7.6 | 3.8 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95.0 | 28.1 | 28.0 | 26.8 | 22.9 | 18.6 | 15.2 | 11.7 | 7.6 | 3.7 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 97.5 | 27.4 | 27.2 | 26.3 | 22.3 | 18.4 | 15.1 | 11.5 | 7.4 | 3.7 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 100.0 | 26.7 | 26.6 | 25.5 | 21.9 | 18.1 | 15.0 | 11.2 | 7.2 | 3.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 102.5 | 26.4 | 26.4 | 25.4 | 21.4 | 17.8 | 14.7 | 10.9 | 7.0 | 3.5 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 105.0 | 25.8 | 25.8 | 24.7 | 21.1 | 17.4 | 14.4 | 10.5 | 6.7 | 3.4 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 107.5 | 25.3 | 25.3 | 24.3 | 20.6 | 17.0 | 14.0 | 10.1 | 6.5 | 3.3 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 110.0 | 24.7 | 24.7 | 23.6 | 20.2 | 16.6 | 13.6 | 9.8 | 6.2 | 3.2 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112.5 | 24.5 | 24.2 | 23.3 | 19.7 | 16.2 | 13.0 | 9.3 | 5.9 | 3.1 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115.0 | 23.8 | 23.7 | 22.8 | 19.2 | 15.6 | 12.4 | 8.9 | 5.6 | 2.9 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117.5 | 23.4 | 23.3 | 22.1 | 18.4 | 14.7 | 11.7 | 8.4 | 5.5 | 2.8 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120.0 | 22.1 | 22.0 | 21.1 | 17.4 | 13.9 | 11.1 | 8.0 | 5.2 | 2.7 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5 | 21.0 | 20.9 | 19.6 | 16.2 | 13.0 | 10.4 | 7.7 | 4.9 | 2.5 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125.0 | 19.1 | 18.9 | 17.4 | 14.5 | 12.3 | 9.9 | 7.2 | 4.7 | 2.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127.5 | 16.2 | 16.0 | 14.9 | 13.4 | 11.5 | 9.2 | 6.8 | 4.4 | 2.2 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130.0 | 14.7 | 14.6 | 13.9 | 12.5 | 10.7 | 8.6 | 6.3 | 4.1 | 2.1 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5 | 13.6 | 13.5 | 12.8 | 11.7 | 10.0 | 8.0 | 5.9 | 3.9 | 2.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135.0 | 12.5 | 12.4 | 11.9 | 10.7 | 9.3 | 7.5 | 5.6 | 3.6 | 1.9 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137.5 | 11.5 | 11.5 | 10.9 | 9.9 | 8.5 | 6.9 | 5.2 | 3.4 | 1.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140.0 | 10.5 | 10.5 | 10.0 | 9.1 | 7.9 | 6.3 | 4.7 | 3.2 | 1.6 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5 | 9.6 | 9.6 | 9.1 | 8.2 | 7.2 | 5.8 | 4.3 | 2.9 | 1.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145.0 | 8.7 | 8.6 | 8.2 | 7.5 | 6.5 | 5.3 | 4.0 | 2.7 | 1.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147.5 | 7.9 | 7.8 | 7.5 | 6.8 | 5.8 | 4.8 | 3.6 | 2.4 | 1.2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150.0 | 7.0 | 6.9 | 6.6 | 6.0 | 5.3 | 4.3 | 3.3 | 2.2 | 1.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5 | 6.1 | 6.1 | 5.8 | 5.4 | 4.7 | 3.8 | 2.9 | 1.9 | 1.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155.0 | 5.4 | 5.4 | 5.2 | 4.7 | 4.1 | 3.4 | 2.6 | 1.7 | 1.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5 | 4.7 | 4.7 | 4.5 | 4.1 | 3.5 | 3.0 | 2.2 | 1.5 | 0.8 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |



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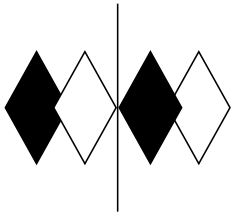
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| | 0.0 | 5.0 | 15.0 | 25.0 | 35.0 | 45.0 | 55.0 | 65.0 | 75.0 | 85.0 | 90.0 | 112.5 | 135.0 | 157.5 |
|-------|-----|-----|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 160.0 | 4.0 | 3.9 | 3.8 | 3.5 | 3.1 | 2.6 | 1.9 | 1.3 | 0.7 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5 | 3.4 | 3.4 | 3.2 | 3.0 | 2.6 | 2.1 | 1.6 | 1.1 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165.0 | 2.7 | 2.7 | 2.6 | 2.4 | 2.1 | 1.7 | 1.3 | 1.0 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5 | 2.2 | 2.1 | 2.1 | 1.9 | 1.7 | 1.4 | 1.1 | 0.8 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170.0 | 1.6 | 1.6 | 1.5 | 1.4 | 1.2 | 1.1 | 0.9 | 0.6 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5 | 1.1 | 1.1 | 1.1 | 1.1 | 0.9 | 0.8 | 0.6 | 0.4 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175.0 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.5 | 0.4 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CANDELA DISTRIBUTION
LATERAL ANGLE

| | 180.0 |
|-------|-------|
| 0.0 | 0.0 |
| 2.5 | 0.0 |
| 5.0 | 0.0 |
| 7.5 | 0.0 |
| 10.0 | 0.0 |
| 12.5 | 0.0 |
| 15.0 | 0.0 |
| 17.5 | 0.0 |
| 20.0 | 0.0 |
| 22.5 | 0.0 |
| 25.0 | 0.0 |
| 27.5 | 0.0 |
| 30.0 | 0.0 |
| 32.5 | 0.0 |
| 35.0 | 0.0 |
| 37.5 | 0.0 |
| 40.0 | 0.0 |
| 42.5 | 0.0 |
| 45.0 | 0.0 |
| 47.5 | 0.0 |
| 50.0 | 0.0 |
| 52.5 | 0.0 |
| 55.0 | 0.0 |
| 57.5 | 0.0 |
| 60.0 | 0.0 |
| 62.5 | 0.0 |
| 65.0 | 0.0 |
| 67.5 | 0.0 |
| 70.0 | 0.0 |
| 72.5 | 0.0 |
| 75.0 | 0.0 |
| 77.5 | 0.0 |
| 80.0 | 0.0 |
| 82.5 | 0.0 |
| 85.0 | 0.0 |
| 87.5 | 0.0 |
| 90.0 | 0.0 |
| 92.5 | 0.0 |
| 95.0 | 0.0 |
| 97.5 | 0.0 |
| 100.0 | 0.0 |
| 102.5 | 0.0 |
| 105.0 | 0.0 |
| 107.5 | 0.0 |
| 110.0 | 0.0 |
| 112.5 | 0.0 |
| 115.0 | 0.0 |
| 117.5 | 0.0 |
| 120.0 | 0.0 |
| 122.5 | 0.0 |
| 125.0 | 0.0 |
| 127.5 | 0.0 |
| 130.0 | 0.0 |
| 132.5 | 0.0 |
| 135.0 | 0.0 |
| 137.5 | 0.0 |
| 140.0 | 0.0 |
| 142.5 | 0.0 |
| 145.0 | 0.0 |
| 147.5 | 0.0 |
| 150.0 | 0.0 |
| 152.5 | 0.0 |
| 155.0 | 0.0 |
| 157.5 | 0.0 |



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THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

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CANDELA DISTRIBUTION
LATERAL ANGLE

| | |
|-------|-------|
| | 180.0 |
| 160.0 | 0.0 |
| 162.5 | 0.0 |
| 165.0 | 0.0 |
| 167.5 | 0.0 |
| 170.0 | 0.0 |
| 172.5 | 0.0 |
| 175.0 | 0.0 |
| 177.5 | 0.0 |
| 180.0 | 0.0 |



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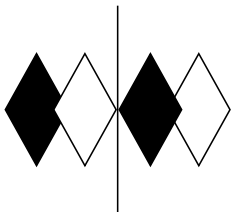
PAGE: 7 OF 8

5-DEGREE
 ZONAL LUMEN SUMMARY

| | |
|---------|-----|
| 0- 5 | 0.0 |
| 5- 10 | 0.0 |
| 10- 15 | 0.1 |
| 15- 20 | 0.2 |
| 20- 25 | 1.7 |
| 25- 30 | 4.0 |
| 30- 35 | 5.3 |
| 35- 40 | 6.1 |
| 40- 45 | 6.5 |
| 45- 50 | 6.5 |
| 50- 55 | 5.3 |
| 55- 60 | 3.9 |
| 60- 65 | 3.3 |
| 65- 70 | 3.2 |
| 70- 75 | 3.5 |
| 75- 80 | 3.7 |
| 80- 85 | 3.8 |
| 85- 90 | 4.0 |
| 90- 95 | 4.1 |
| 95-100 | 4.0 |
| 100-105 | 3.8 |
| 105-110 | 3.5 |
| 110-115 | 3.2 |
| 115-120 | 2.9 |
| 120-125 | 2.4 |
| 125-130 | 1.9 |
| 130-135 | 1.5 |
| 135-140 | 1.2 |
| 140-145 | 0.9 |
| 145-150 | 0.7 |
| 150-155 | 0.5 |
| 155-160 | 0.3 |
| 160-165 | 0.2 |
| 165-170 | 0.1 |
| 170-175 | 0.0 |
| 175-180 | 0.0 |

10-DEGREE
 ZONAL LUMEN SUMMARY

| | |
|-------|------|
| 0- 10 | 0.0 |
| 0- 20 | 0.3 |
| 0- 30 | 6.0 |
| 0- 40 | 17.4 |
| 0- 50 | 30.4 |
| 0- 60 | 39.6 |
| 0- 70 | 46.0 |
| 0- 80 | 53.2 |
| 0- 90 | 61.1 |
| 0-100 | 69.2 |
| 0-110 | 76.5 |
| 0-120 | 82.7 |
| 0-130 | 87.0 |
| 0-140 | 89.8 |
| 0-150 | 91.3 |
| 0-160 | 92.1 |
| 0-170 | 92.3 |
| 0-180 | 92.3 |



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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 | |
|----|----------------|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| 0 | 11111111111111 | 104104104104 | 92 | 92 | 92 | 81 | 81 | 81 | 71 | 71 | 71 | 66 | | | | | | | |
| 1 | 98 | 92 | 86 | 81 | 91 | 86 | 81 | 77 | 75 | 72 | 68 | 66 | 63 | 60 | 57 | 55 | 53 | 48 | 48 |
| 2 | 88 | 78 | 70 | 64 | 82 | 73 | 66 | 60 | 64 | 59 | 54 | 56 | 51 | 48 | 48 | 45 | 42 | 38 | 38 |
| 3 | 79 | 67 | 59 | 51 | 74 | 63 | 55 | 49 | 55 | 49 | 44 | 48 | 43 | 39 | 41 | 37 | 34 | 30 | 30 |
| 4 | 72 | 59 | 49 | 42 | 67 | 55 | 47 | 40 | 48 | 41 | 36 | 42 | 36 | 32 | 36 | 32 | 28 | 24 | 24 |
| 5 | 65 | 52 | 42 | 35 | 61 | 49 | 40 | 33 | 43 | 35 | 30 | 37 | 31 | 27 | 32 | 27 | 23 | 20 | 20 |
| 6 | 60 | 46 | 36 | 30 | 55 | 43 | 34 | 28 | 38 | 31 | 25 | 33 | 27 | 22 | 28 | 23 | 20 | 17 | 17 |
| 7 | 55 | 41 | 32 | 25 | 51 | 38 | 30 | 24 | 34 | 27 | 22 | 29 | 23 | 19 | 25 | 20 | 17 | 14 | 14 |
| 8 | 50 | 36 | 28 | 22 | 47 | 34 | 26 | 21 | 30 | 23 | 18 | 26 | 21 | 16 | 23 | 18 | 14 | 12 | 12 |
| 9 | 47 | 33 | 24 | 19 | 43 | 31 | 23 | 18 | 27 | 21 | 16 | 24 | 18 | 14 | 21 | 16 | 12 | 10 | 10 |
| 10 | 43 | 30 | 22 | 16 | 40 | 28 | 21 | 15 | 25 | 18 | 14 | 22 | 16 | 12 | 19 | 14 | 11 | 9 | 9 |

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.