



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



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

**REPORT NUMBER:** ITL89598-GONIOPHOTOMETRY

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**ISSUE DATE:** 08/28/17

**PREPARED FOR:** FINELITE, INC.

**ADDRESS:** 30500 WHIPPLE ROAD  
UNION CITY, CA 94587

**CATALOG NUMBER:** HPT-RES-2X2-V-835

**LUMINAIRE:** FABRICATED METAL HOUSING WITH WHITE PAINTED GENERAL INTERIOR FINISH, 3-PIECE FABRICATED WHITE PAINTED METAL REFLECTOR/CIRCUIT BOARD MOUNT, 2 WHITE CIRCUIT BOARDS EACH WITH 128 LEDS, TRANSLUCENT WHITE FROSTED HOLOGRAPHIC FLAT PLASTIC REGRESSED LENS. LENS FROSTED SIDE OUT.

**LAMPS:** TWO HUNDRED FIFTY-SIX WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

**INPUT ELECTRICAL:** 120.0 VOLTS, 56.6 WATTS, 0.473 AMPS

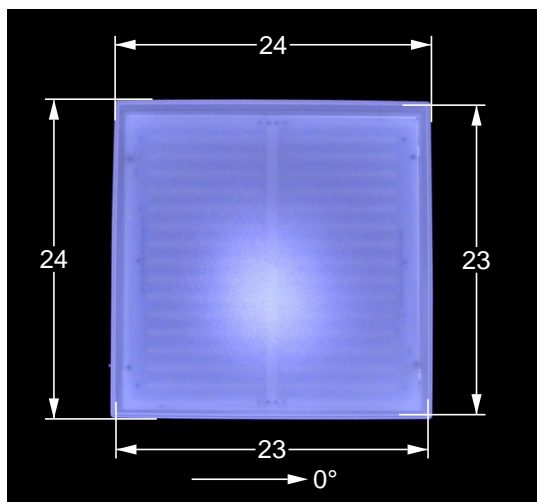
**MOUNTING:** RECESSED

**LED DRIVER:** OSRAM OTi 50/120-277/1A4 DIM L, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES DRIVER PROGRAMMED FOR 1050mA OUTPUT.

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

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET



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

Checked	<u>M KLOPF</u> TECHNICIAN
Approved	<u>R BEATTIE</u> LIGHTING ENGINEER

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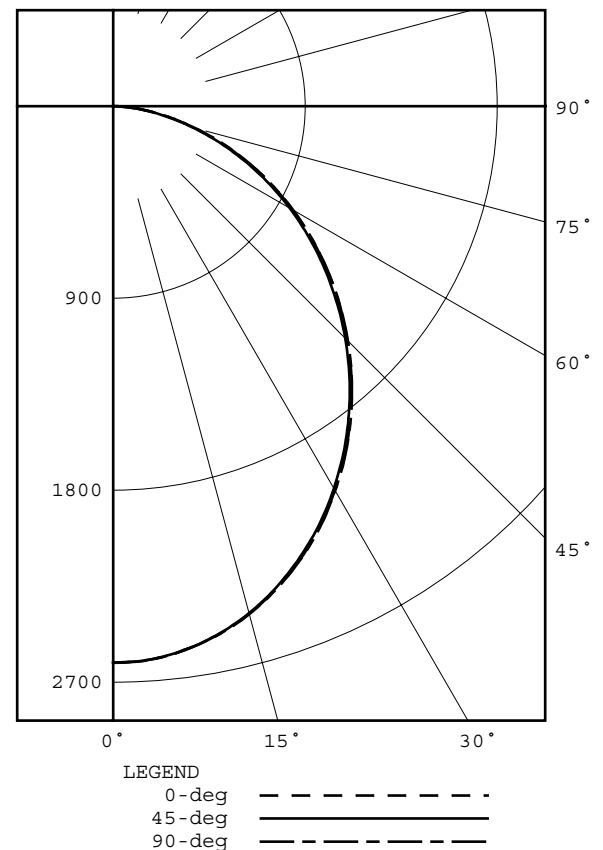
CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	2609	2609	2609	2609	2609	
5	2592	2591	2592	2593	2593	246
15	2463	2460	2460	2464	2465	694
25	2228	2222	2220	2226	2231	1024
35	1915	1906	1903	1912	1918	1194
45	1552	1542	1538	1548	1556	1192
55	1167	1154	1150	1161	1171	1036
65	779	765	760	771	778	760
75	398	387	386	394	400	417
85	95	89	88	93	94	108
90	0	0	0	0	0	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	1964	29.4
0- 40	3157	47.3
0- 60	5386	80.7
0- 90	6671	100.0
90-180	0	0.0
0-180	6671	100.0

EFFICACY (120) = 117.9 lm/W  
 EFFICACY (277) = 118.7 lm/W \*\*  
 \*\* THE EFFICACY AT 277 VOLTS IS BASED ON  
 THE LUMENS FROM THIS REPORT AND THE  
 WATTAGE MEASURED AT 277 VOLTS FROM ITL  
 REPORT NUMBER ITL89598-THD.

CIE TYPE - DIRECT  
 PLANE : 0-DEG 90-DEG  
 SPACING CRITERIA : 1.19 1.19  
 BEAM ANGLE (50%) : 103.0 X 103.1 DEGREES  
 FIELD ANGLE (10%) : 158.2 X 158.3 DEGREES  
 LUMINOUS LENGTH : 23.000 23.000

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	6431.	6373.	6448.
55	5962.	5875.	5982.
65	5401.	5269.	5394.
75	4506.	4370.	4528.
85	3194.	2958.	3160.





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CANDELA DISTRIBUTION  
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	2609	2609	2609	2609	2609
2.5	2604	2604	2605	2605	2606
5.0	2592	2591	2592	2593	2593
7.5	2570	2570	2570	2572	2572
10.0	2542	2540	2541	2542	2543
12.5	2506	2503	2504	2507	2508
15.0	2463	2460	2460	2464	2465
17.5	2413	2409	2409	2414	2415
20.0	2357	2352	2351	2356	2359
22.5	2296	2290	2288	2294	2298
25.0	2228	2222	2220	2226	2231
27.5	2156	2149	2147	2154	2159
30.0	2079	2072	2069	2077	2081
32.5	1999	1990	1987	1996	2002
35.0	1915	1906	1903	1912	1918
37.5	1828	1818	1815	1824	1831
40.0	1738	1728	1725	1735	1741
42.5	1647	1636	1632	1642	1650
45.0	1552	1542	1538	1548	1556
47.5	1458	1446	1442	1453	1461
50.0	1366	1349	1345	1356	1365
52.5	1264	1252	1248	1259	1268
55.0	1167	1154	1150	1161	1171
57.5	1069	1057	1053	1064	1073
60.0	975	960	955	966	975
62.5	872	862	857	868	876
65.0	779	765	760	771	778
67.5	677	668	663	674	681
70.0	582	570	568	578	585
72.5	488	477	476	485	491
75.0	398	387	386	394	400
77.5	312	302	301	308	314
80.0	233	223	223	229	234
82.5	160	152	150	158	163
85.0	95	89	88	93	94
87.5	38	36	36	39	37
90.0	0	0	0	0	0



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	62
5- 10	184
10- 15	297
15- 20	397
20- 25	480
25- 30	544
30- 35	586
35- 40	607
40- 45	607
45- 50	586
50- 55	546
55- 60	490
60- 65	421
65- 70	340
70- 75	252
75- 80	165
80- 85	85
85- 90	23

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	246
0- 20	939
0- 30	1964
0- 40	3157
0- 50	4349
0- 60	5386
0- 70	6146
0- 80	6563
0- 90	6671



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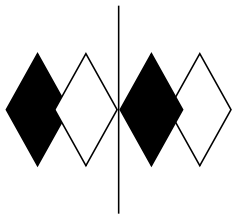
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# COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	97	106	102	98	95	98	95	92	94	92	89	90	88	87	84
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	64	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	49	42	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32	27	26

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.



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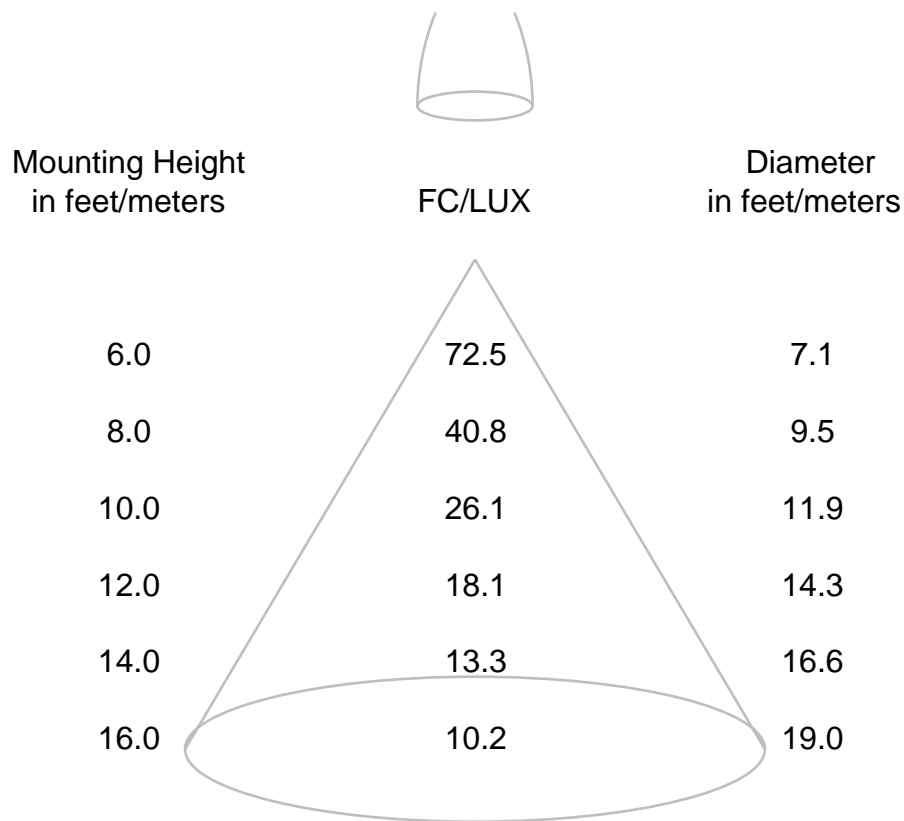
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## CONE OF LIGHT DIAGRAM

(diameter shown is where fc/lux value is half the fc/lux at nadir)



If distances are feet, results are footcandles.

If distances are meters, results are lux.

Note: The candela values used to generate this diagram were obtained by averaging the photometric data into a single plane.