



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)



NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

**REPORT NUMBER:** ITL94264-GONIOPHOTOMETRY

**PAGE:** 1 OF 6

**ISSUE DATE:** 12/14/20

**PREPARED FOR:** FINELITE, INC.

**ADDRESS:** 30500 WHIPPLE ROAD

UNION CITY, CA 94587

**CATALOG NUMBER:** HP-2 WS-4D-4'-V-835-96LG-277-X-X-X

**LUMINAIRE:** EXTRUDED WHITE PAINTED METAL HOUSING WITH FABRICATED WHITE PAINTED METAL END CAPS, FORMED WHITE PAINTED METAL REFLECTOR/CIRCUIT BOARD MOUNT, TWO WHITE CIRCUIT BOARDS EACH WITH 80 LEDS, EXTRUDED FROSTED PLASTIC LENS. FABRICATED WHITE PAINTED METAL REAR PANEL BELOW LENS. LENS FROSTED BOTH SIDES.

**LAMPS:** ONE HUNDRED SIXTY WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

**MOUNTING:** RECESSED

**LED DRIVER:** OSRAM OTi 50/120-277/1A4 DIM-1 L AUX G2, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, CLIENT STATES DRIVER PROGRAMMED FOR 700mA OUTPUT.

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

**INPUT ELECTRICAL:** 120.0 VOLTS, 35.4 WATTS, 0.300 AMPS

POWER FACTOR: 98.3%, VOLTAGE THD: 0.1, CURRENT THD: 9.6

TEST PROCEDURE: IESNA LM-79-19

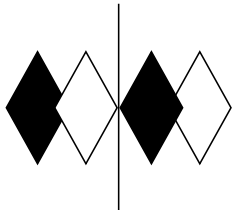
TEST DISTANCE = 35.0 FEET

AMBIENT: 24.5



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.

Approved C STOUT



**itl boulder**  
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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# CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	
0	1479	1479	1479	1479	1479	
5	1552	1529	1468	1418	1367	138
15	1547	1527	1396	1011	762	356
25	1407	1409	1255	530	190	458
35	1217	1226	1066	136	0	475
45	1027	1020	854	17	0	456
55	845	816	636	13	0	401
65	668	618	424	8	0	326
75	503	434	221	4	0	233
85	354	273	56	1	0	140
90	289	207	2	0	0	
95	265	181	0	0	0	87
105	198	120	0	0	0	58
115	135	71	0	0	0	34
125	81	34	0	0	0	17
135	39	9	0	0	0	6
145	8	0	0	0	0	1
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	0

# FLUX

## ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	952	29.9
0- 40	1427	44.8
0- 60	2283	71.7
0- 90	2982	93.7
90-120	178	5.6
90-130	195	6.1
90-150	202	6.3
90-180	202	6.3
0-180	3184	100.0

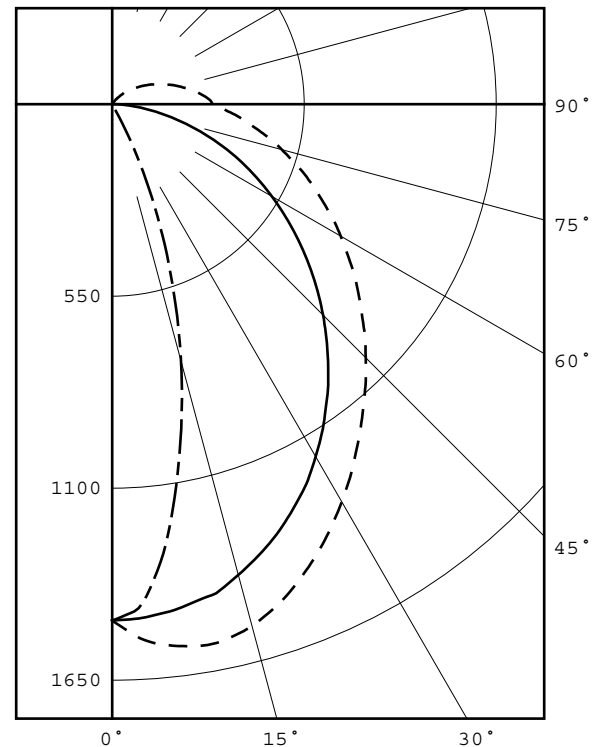
EFFICACY (120) = 89.9 lm/W

EFFICACY (277) = 90.2 lm/W \*\*

\*\* THE EFFICACY AT 277 VOLTS IS BASED ON THE LUMENS FROM THIS REPORT AND THE WATTAGE MEASURED AT 277 VOLT INPUT.

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG 180-DEG  
SPACING CRITERIA : 1.30 1.18 0.51  
BEAM ANGLE (50%) : 72.8 X 96.2 DEGREES  
FIELD ANGLE (10%) : 137.1 X 156.9 DEGREES



LEGEND  
0-deg - - - - -  
90-deg - - - - -  
180-deg - - - - -



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PLANE : 0-DEG 90-DEG  
LUMINOUS LENGTH : 2.250 48.000  
HEIGHT OF SIDE : 0.000 4.000

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 90-DEG	AVERAGE 180-DEG
45	7504.	17333.	0.
55	5975.	15914.	0.
65	4714.	14399.	0.
75	3653.	12255.	0.
85	2734.	9221.	0.



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# CANDELA DISTRIBUTION

## LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	1479	1479	1479	1479	1479	1479	1479	1479	1479
5.0	1552	1544	1529	1505	1468	1449	1418	1384	1367
10.0	1573	1565	1543	1504	1441	1380	1237	1120	1077
15.0	1547	1541	1527	1479	1396	1249	1011	831	762
20.0	1487	1486	1479	1431	1332	1100	763	534	457
25.0	1407	1410	1409	1368	1255	932	530	274	190
30.0	1315	1321	1321	1287	1166	766	311	69	4
35.0	1217	1222	1226	1199	1066	595	136	8	0
40.0	1121	1124	1122	1098	962	437	19	6	0
45.0	1027	1025	1020	995	854	290	17	6	0
50.0	933	931	916	890	745	162	15	5	0
55.0	845	837	816	781	636	54	13	4	0
60.0	756	745	715	673	529	30	10	3	0
65.0	668	656	618	562	424	24	8	2	0
70.0	586	569	525	456	323	18	6	2	0
75.0	503	485	434	352	221	13	4	2	0
80.0	424	407	348	258	129	8	3	0	0
85.0	354	332	273	172	56	3	1	0	0
90.0	289	270	207	106	2	1	0	0	0
95.0	265	243	181	79	0	0	0	0	0
100.0	231	211	149	56	0	0	0	0	0
105.0	198	178	120	37	0	0	0	0	0
110.0	165	147	94	24	0	0	0	0	0
115.0	135	118	71	13	0	0	0	0	0
120.0	107	92	51	5	0	0	0	0	0
125.0	81	68	34	2	0	0	0	0	0
130.0	58	48	21	0	0	0	0	0	0
135.0	39	30	9	0	0	0	0	0	0
140.0	21	15	2	0	0	0	0	0	0
145.0	8	4	0	0	0	0	0	0	0
150.0	1	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	35
5- 10	102
10- 15	158
15- 20	198
20- 25	223
25- 30	235
30- 35	238
35- 40	237
40- 45	232
45- 50	223
50- 55	209
55- 60	192
60- 65	173
65- 70	153
70- 75	129
75- 80	105
80- 85	81
85- 90	59
90- 95	47
95-100	40
100-105	32
105-110	25
110-115	19
115-120	14
120-125	10
125-130	7
130-135	4
135-140	2
140-145	1
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	138
0- 20	494
0- 30	952
0- 40	1427
0- 50	1883
0- 60	2283
0- 70	2609
0- 80	2843
0- 90	2982
0-100	3069
0-110	3127
0-120	3161
0-130	3177
0-140	3183
0-150	3184
0-160	3184
0-170	3184
0-180	3184



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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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	107	101	97	93	103	99	94	91	93	90	87	88	85	83	83	81	79	77
2	97	89	82	76	94	86	80	74	82	76	72	77	73	69	73	70	67	64
3	89	78	70	64	86	76	69	63	72	66	61	69	63	59	65	61	57	55
4	82	70	61	55	79	68	60	54	65	58	52	62	56	51	59	54	50	47
5	75	63	54	47	73	61	53	47	58	51	46	56	50	45	53	48	44	41
6	70	57	48	42	68	56	47	41	53	46	41	51	45	40	49	43	39	37
7	65	52	43	37	63	51	43	37	49	42	36	47	40	36	45	39	35	33
8	61	48	39	34	59	47	39	33	45	38	33	43	37	32	42	36	32	30
9	57	44	36	31	55	43	36	30	42	35	30	40	34	29	39	33	29	27
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25

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.