

REPORT NUMBER: ITL88851-GONIOPHOTOMETRY

PAGE: 1 OF 8

ISSUE DATE: 01/25/17

PREPARED FOR: FINELITE, INC.

ADDRESS: 30500 WHIPPLE ROAD

UNION CITY, CA 94587

CATALOG NUMBER: HP-WG-6W-6D-4-V-835

LUMINAIRE: FABRICATED WHITE PAINTED METAL HOUSING, EXTRUDED WHITE PAINTED METAL INTERIOR HOUSING/CIRCUIT BOARD MOUNT, 4 WHITE CIRCUIT BOARDS EACH WITH 40 LEDS, FROSTED HOLOGRAPHIC PLASTIC LENS, FORMED SEMI-SPECULAR METAL FORWARD REFLECTOR, EXTRUDED WHITE PLASTIC LOWER CUTOFF SHIELD. LENS FROSTED BOTH SIDES. VERTICAL PHOTOMETRIC CENTER LOCATED AT BACK BOTTOM EDGE OF HOUSING (CEILING HEIGHT).

LAMPS: ONE HUNDRED SIXTY WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

INPUT ELECTRICAL: 277.0 VOLTS, 37.6 WATTS, 0.141 AMPS

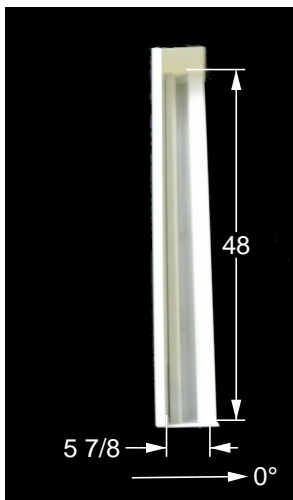
MOUNTING: RECESSED

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 700mA OUTPUT.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (277VAC, 60Hz) TO THE DRIVER.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 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

	0.0	45.0	90.0	135.0	180.0	
0	3417	3417	3417	3417	3417	
5	2404	2728	3390	3475	3234	273
15	956	1320	3104	1824	872	491
25	552	757	2608	332	34	441
35	399	495	2000	32	4	368
45	348	363	1384	8	1	285
55	337	299	830	5	0	228
65	437	297	421	3	0	200
75	588	374	139	2	0	188
85	61	55	17	0	0	51
90	58	51	0	0	0	
95	56	48	0	0	0	23
105	48	39	0	0	0	17
115	38	26	0	0	0	11
125	22	10	0	0	0	5
135	6	4	0	0	0	1
145	0	2	0	0	0	0
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	1205	46.6
0- 40	1573	60.9
0- 60	2086	80.8
0- 90	2526	97.7
90-120	51	2.0
90-130	56	2.2
90-150	58	2.3
90-180	58	2.3
0-180	2584	100.0

EFFICACY = 68.7 lm/W

EFFICACY (277V) = 68.7 lm/W

EFFICACY (120V) = 70.2 lm/W **

** THE EFFICACY AT 120 VOLTS IS BASED ON THE LUMENS FROM THIS REPORT AND THE WATTAGE MEASURED AT 120 VOLTS FROM ITL REPORT NUMBER ITL88849-THD.

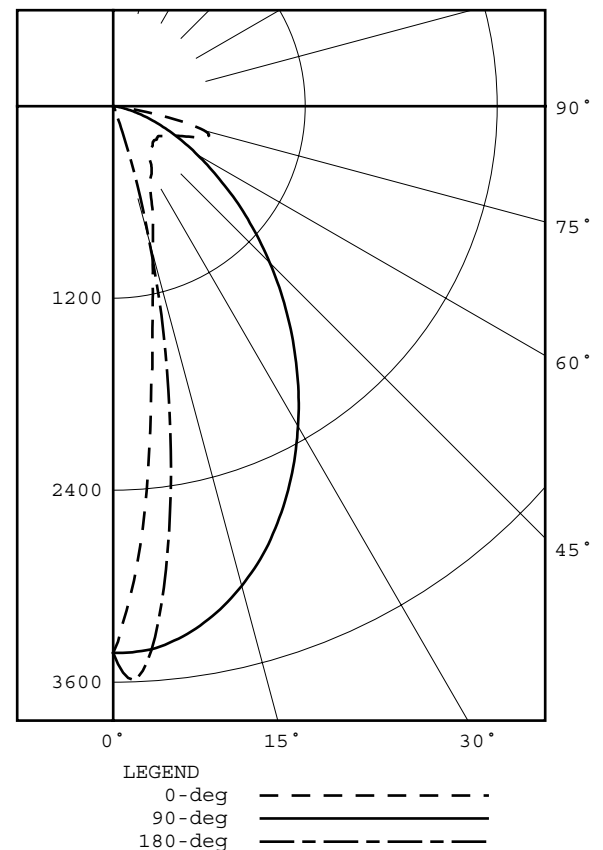
CIE TYPE - DIRECT

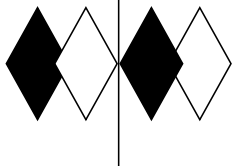
PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 0.27 1.05 0.39

BEAM ANGLE (50%) : 18.7 X 76.5 DEGREES

FIELD ANGLE (10%) : 59.4 X 133.7 DEGREES





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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	3417	3417	3417	3417	3417	3417	3417	3417	3417	3417	3417	3417	3417	3417
0.5	3346	3340	3342	3348	3355	3362	3372	3385	3398	3410	3417	3446	3468	3484
1.0	3242	3255	3259	3271	3286	3303	3326	3352	3377	3404	3417	3478	3514	3537
1.5	3154	3165	3172	3189	3213	3241	3276	3315	3355	3396	3416	3496	3549	3576
2.0	3063	3069	3079	3102	3136	3174	3223	3277	3332	3385	3415	3520	3576	3597
2.5	2968	2969	2984	3013	3056	3105	3168	3238	3309	3379	3412	3538	3589	3593
3.0	2863	2865	2883	2919	2972	3034	3111	3198	3283	3368	3409	3552	3590	3569
3.5	2756	2758	2777	2823	2887	2962	3054	3157	3258	3357	3407	3560	3577	3530
4.0	2643	2645	2669	2723	2799	2887	2995	3115	3232	3346	3403	3567	3553	3474
4.5	2523	2529	2558	2619	2707	2808	2934	3070	3204	3334	3397	3566	3519	3406
5.0	2404	2410	2444	2512	2613	2728	2870	3023	3175	3318	3390	3561	3475	3328
5.5	2281	2290	2328	2405	2516	2668	2806	2977	3145	3308	3382	3550	3424	3242
6.0	2160	2173	2212	2296	2420	2564	2739	2929	3113	3289	3372	3533	3365	3148
6.5	2041	2057	2101	2188	2321	2499	2671	2879	3082	3277	3362	3513	3299	3048
7.0	1928	1946	1993	2083	2223	2414	2603	2829	3049	3256	3353	3490	3229	2945
7.5	1819	1842	1888	1983	2126	2327	2533	2780	3016	3244	3342	3462	3155	2837
8.0	1717	1745	1791	1887	2033	2242	2462	2729	2983	3226	3330	3432	3076	2727
8.5	1655	1654	1701	1796	1941	2158	2391	2676	2949	3212	3318	3407	2995	2613
9.0	1566	1572	1618	1710	1854	2075	2322	2624	2916	3194	3305	3361	2910	2499
9.5	1484	1495	1540	1629	1773	1992	2268	2572	2880	3174	3291	3331	2823	2383
10.0	1409	1427	1469	1556	1696	1914	2198	2518	2844	3155	3276	3287	2736	2267
11.0	1297	1305	1346	1425	1557	1770	2063	2413	2774	3116	3247	3196	2555	2036
11.5	1234	1250	1290	1366	1494	1701	1997	2358	2738	3095	3231	3146	2465	1920
12.0	1197	1200	1239	1312	1437	1637	1933	2305	2702	3075	3215	3093	2372	1806
12.5	1142	1153	1190	1261	1381	1576	1870	2252	2665	3053	3198	3040	2280	1694
13.0	1094	1110	1145	1214	1329	1518	1809	2199	2619	3031	3179	2987	2188	1584
13.5	1063	1069	1104	1169	1283	1464	1752	2147	2582	3009	3161	2931	2096	1477
14.0	1018	1031	1065	1127	1236	1412	1697	2094	2542	2987	3142	2877	2004	1366
14.5	992	997	1030	1089	1192	1365	1645	2044	2505	2965	3123	2822	1915	1247
15.0	956	965	996	1054	1153	1320	1592	1981	2466	2943	3104	2766	1824	1132
16.0	898	907	930	987	1077	1234	1494	1884	2392	2894	3062	2655	1627	921
17.0	848	857	879	931	1011	1159	1405	1793	2321	2846	3021	2542	1461	737
18.0	802	812	831	881	953	1090	1324	1708	2249	2796	2976	2427	1297	576
19.0	767	769	789	835	902	1028	1249	1626	2178	2746	2930	2313	1118	431
20.0	724	729	749	794	854	972	1180	1548	2109	2697	2879	2201	954	292
22.5	619	628	651	694	754	853	1030	1371	1940	2560	2747	1920	611	95
25.0	552	555	570	608	668	757	908	1218	1778	2420	2608	1646	332	47
27.5	506	508	517	542	591	675	806	1084	1624	2267	2461	1388	136	33
30.0	480	483	486	497	531	603	720	967	1479	2119	2310	1152	61	25
32.5	445	445	456	466	487	543	648	871	1344	1971	2157	914	42	8
35.0	399	399	413	432	453	495	583	782	1218	1824	2000	692	32	7
37.5	379	379	382	396	421	456	529	701	1100	1680	1844	502	23	6
40.0	365	364	366	372	388	423	481	632	990	1536	1689	333	11	4
42.5	355	354	354	356	364	392	441	574	894	1397	1536	188	9	3
45.0	348	347	346	343	346	363	406	518	800	1261	1384	96	8	3
47.5	336	336	336	335	332	341	375	470	716	1131	1239	57	7	3
50.0	333	332	326	324	322	323	346	425	632	1000	1098	41	6	2
52.5	342	342	338	320	312	309	321	386	564	882	965	31	5	2
55.0	337	337	334	331	306	299	301	351	498	770	830	21	5	2
57.5	346	346	336	327	318	289	284	318	438	665	715	14	4	2
60.0	372	372	358	337	315	291	271	288	381	571	609	12	4	2
62.5	399	397	383	360	323	295	261	264	330	481	511	11	4	1
65.0	437	434	415	383	345	297	259	242	284	398	421	10	3	1
67.5	495	492	465	418	365	312	261	224	244	323	338	8	3	1
70.0	566	563	529	470	399	328	262	208	207	255	263	7	3	1
72.5	620	618	585	524	441	350	272	208	181	193	197	6	2	1
75.0	588	587	568	533	467	374	280	202	156	141	139	5	2	1
77.5	439	450	444	441	420	372	287	202	135	99	91	4	1	1
80.0	213	226	237	269	288	297	268	197	125	61	51	3	1	0
82.5	62	63	64	76	115	159	188	173	116	41	30	2	1	0

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



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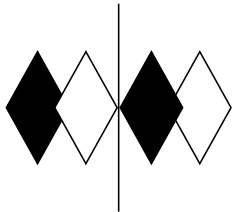
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LATERAL ANGLE

	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
85.0	61	61	62	61	59	55	74	104	99	32	17	1	0	0
87.5	60	60	61	60	57	53	48	43	56	25	7	0	0	0
90.0	58	59	59	58	56	51	46	40	34	18	0	0	0	0
92.5	57	57	58	57	54	50	44	38	30	14	0	0	0	0
95.0	56	56	57	55	53	48	42	35	26	10	0	0	0	0
97.5	54	54	55	54	51	46	39	32	21	6	0	0	0	0
100.0	52	53	53	52	48	44	37	29	17	4	0	0	0	0
102.5	50	51	51	49	46	41	35	26	14	3	0	0	0	0
105.0	48	48	49	47	44	39	32	22	10	2	0	0	0	0
107.5	46	46	46	45	41	36	28	19	8	2	0	0	0	0
110.0	44	44	44	42	39	33	25	15	6	1	0	0	0	0
112.5	41	41	41	39	35	29	22	12	5	1	0	0	0	0
115.0	38	38	38	36	32	26	18	9	4	1	0	0	0	0
117.5	34	34	34	32	28	22	14	7	3	0	0	0	0	0
120.0	30	30	30	28	24	18	10	6	3	0	0	0	0	0
122.5	26	26	26	24	20	14	7	5	3	0	0	0	0	0
125.0	22	22	22	20	16	10	6	4	2	0	0	0	0	0
127.5	18	18	18	16	12	7	5	4	2	0	0	0	0	0
130.0	14	14	13	12	8	5	5	4	2	0	0	0	0	0
132.5	10	10	9	8	5	5	4	3	1	0	0	0	0	0
135.0	6	5	5	4	4	4	4	3	1	0	0	0	0	0
137.5	1	1	2	3	3	4	3	3	1	0	0	0	0	0
140.0	0	0	1	2	3	3	2	2	0	0	0	0	0	0
142.5	0	0	1	2	2	2	2	2	0	0	0	0	0	0
145.0	0	0	1	1	2	2	2	2	0	0	0	0	0	0
147.5	0	0	0	1	1	1	1	2	0	0	0	0	0	0
150.0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
152.5	0	0	0	0	0	0	1	1	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	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



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CANDELA DISTRIBUTION
LATERAL ANGLE

	180.0
0.0	3417
0.5	3487
1.0	3540
1.5	3575
2.0	3587
2.5	3571
3.0	3534
3.5	3480
4.0	3410
4.5	3328
5.0	3234
5.5	3134
6.0	3027
6.5	2913
7.0	2796
7.5	2677
8.0	2556
8.5	2432
9.0	2308
9.5	2183
10.0	2057
11.0	1811
11.5	1690
12.0	1572
12.5	1459
13.0	1340
13.5	1213
14.0	1091
14.5	978
15.0	872
16.0	682
17.0	517
18.0	367
19.0	226
20.0	142
22.5	52
25.0	34
27.5	25
30.0	6
32.5	5
35.0	4
37.5	3
40.0	2
42.5	1
45.0	1
47.5	1
50.0	1
52.5	0
55.0	0
57.5	0
60.0	0
62.5	0
65.0	0
67.5	0
70.0	0
72.5	0
75.0	0
77.5	0
80.0	0
82.5	0



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CANDELA DISTRIBUTION
LATERAL ANGLE

	180.0
85.0	0
87.5	0
90.0	0
92.5	0
95.0	0
97.5	0
100.0	0
102.5	0
105.0	0
107.5	0
110.0	0
112.5	0
115.0	0
117.5	0
120.0	0
122.5	0
125.0	0
127.5	0
130.0	0
132.5	0
135.0	0
137.5	0
140.0	0
142.5	0
145.0	0
147.5	0
150.0	0
152.5	0
155.0	0
157.5	0
160.0	0
162.5	0
165.0	0
167.5	0
170.0	0
172.5	0
175.0	0
177.5	0
180.0	0



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	78
5- 10	195
10- 15	245
15- 20	246
20- 25	229
25- 30	211
30- 35	194
35- 40	174
40- 45	152
45- 50	134
50- 55	120
55- 60	108
60- 65	101
65- 70	99
70- 75	104
75- 80	85
80- 85	36
85- 90	15
90- 95	12
95-100	11
100-105	9
105-110	8
110-115	6
115-120	5
120-125	3
125-130	2
130-135	1
135-140	0
140-145	0
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	273
0- 20	764
0- 30	1205
0- 40	1573
0- 50	1859
0- 60	2086
0- 70	2287
0- 80	2475
0- 90	2526
0-100	2549
0-110	2566
0-120	2577
0-130	2582
0-140	2584
0-150	2584
0-160	2584
0-170	2584
0-180	2584



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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	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	105	101	98	107	103	99	96	98	95	93	94	92	89	90	88	86	84
2	101	94	88	83	98	92	86	82	88	84	80	85	81	78	81	78	76	73
3	94	85	78	72	91	83	77	71	80	74	70	77	72	68	74	70	67	65
4	88	77	70	64	85	76	69	64	73	67	62	71	66	61	69	64	60	58
5	82	71	63	58	80	70	63	57	68	61	57	66	60	56	64	59	55	53
6	77	66	58	53	75	65	58	52	63	56	52	61	55	51	59	54	51	49
7	73	61	54	48	71	60	53	48	59	52	48	57	51	47	56	51	47	45
8	69	57	50	45	67	56	50	45	55	49	44	54	48	44	53	47	44	42
9	65	54	47	42	64	53	46	42	52	46	41	51	45	41	50	45	41	39
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	47	42	38	37

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.