

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

**NVLAP**  
NVLAP LAB CODE: 200925-0

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: ITL86713

PAGE: 1 OF 8

ISSUE DATE: 02/11/16

PREPARED FOR: FINELITE, INC.

CATALOG NUMBER: HP-WS-4W-4D-4'-V-8-35

LUMINAIRE: FABRICATED WHITE PAINTED METAL HOUSING, FLAT SEMI-DIFFUSE METAL REAR UPPER REFLECTOR, EXTRUDED WHITE PAINTED METAL LOWER REFLECTOR/HOUSING EXTENSION, FABRICATED WHITE PAINTED METAL CIRCUIT BOARD MOUNT/FORWARD REFLECTOR, 2 WHITE CIRCUIT BOARDS EACH WITH 80 LEDS, FROSTED HOLOGRAPHIC PLASTIC LENS. 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), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 277.0 VOLTS, 37.9 WATTS, 0.145 AMPS

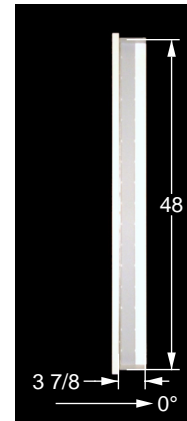
MOUNTING: RECESSED

LED DRIVER: OSRAM OT50W/PRG1400C/UNV/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



#### CANDELA DISTRIBUTION

#### FLUX

	0.0	45.0	90.0	135.0	180.0	
0	1246	1246	1246	1246	1246	114
5	1314	1286	1239	1140	1083	300
15	1401	1337	1182	772	581	405
25	1401	1311	1069	395	129	452
35	1336	1222	919	80	7	464
45	1225	1091	745	9	0	431
55	1049	926	562	1	0	361
65	826	719	381	0	0	261
75	599	498	208	0	0	149
85	375	291	53	0	0	62
90	265	188	0	0	0	29
95	197	122	0	0	0	19
105	90	62	0	0	0	8
115	76	42	0	0	0	1
125	47	9	0	0	0	0
135	9	0	0	0	0	0
145	0	0	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

#### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	819	26.8
0- 40	1270	41.6
0- 60	2165	70.9
0- 90	2936	96.1
90-120	110	3.6
90-130	118	3.9
90-150	119	3.9
90-180	119	3.9
0-180	3056	100.0

EFFICACY (277V) = 80.6 lm/W

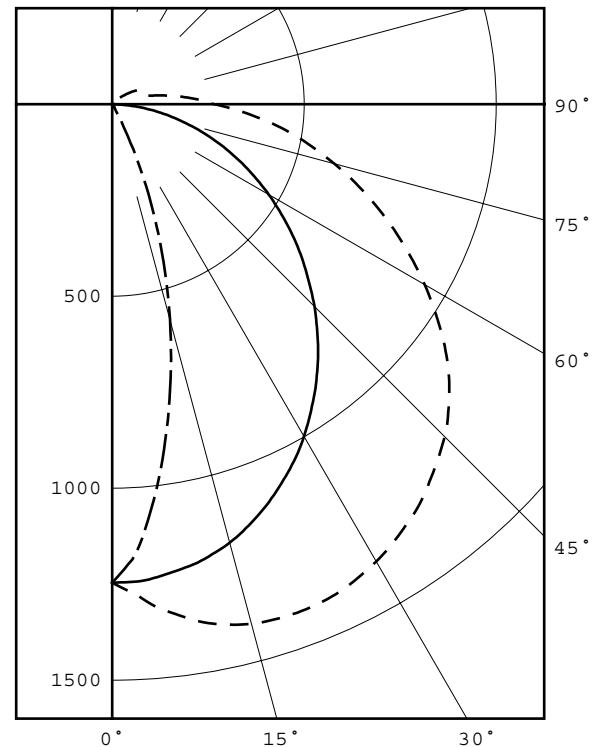
EFFICACY (120V) = 82.6 lm/W \*\*

\*\* THE EFFICACY AT 120 VOLTS IS BASED ON THE LUMENS FROM THIS REPORT AND THE WATTAGE MEASURED AT 120 VOLTS FROM ITL REPORT NUMBER ITL86713-THD.

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 1.59 1.20 0.47

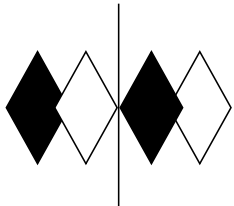


#### LEGEND:

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

Checked B. HYRE

Approved R. BEATTIE  
Lighting Engineer



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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	1246	1246	1246	1246	1246	1246	1246	1246	1246	1246	1246	1246	1246	1246
2.5	1275	1274	1272	1270	1265	1262	1257	1253	1249	1246	1245	1234	1214	1195
5.0	1314	1312	1309	1304	1296	1286	1275	1262	1248	1242	1239	1200	1140	1098
7.5	1343	1340	1338	1331	1320	1308	1291	1271	1249	1234	1228	1153	1056	984
10.0	1370	1365	1363	1353	1341	1322	1301	1275	1245	1221	1217	1103	964	865
12.5	1388	1384	1382	1371	1355	1332	1305	1273	1238	1206	1201	1046	869	752
15.0	1401	1397	1396	1382	1365	1337	1306	1266	1227	1189	1182	985	772	634
17.5	1407	1406	1402	1389	1368	1337	1303	1256	1213	1169	1158	920	676	517
20.0	1409	1407	1403	1389	1367	1332	1294	1243	1194	1145	1131	853	579	404
22.5	1407	1404	1400	1384	1359	1324	1282	1227	1174	1119	1101	786	486	298
25.0	1401	1398	1392	1374	1348	1311	1266	1207	1149	1091	1069	719	395	198
27.5	1389	1388	1380	1361	1333	1294	1247	1184	1122	1062	1036	651	308	109
30.0	1375	1373	1364	1344	1314	1273	1223	1159	1093	1030	999	584	225	35
32.5	1357	1355	1346	1324	1292	1249	1196	1132	1063	994	959	518	149	17
35.0	1336	1335	1324	1301	1268	1222	1168	1101	1028	957	919	453	80	11
37.5	1314	1311	1299	1276	1240	1193	1136	1069	996	916	877	390	28	8
40.0	1285	1283	1270	1246	1209	1160	1101	1033	956	875	834	329	18	5
42.5	1255	1254	1241	1214	1177	1126	1065	996	918	835	789	269	13	3
45.0	1225	1221	1207	1180	1141	1091	1027	956	878	793	745	212	9	2
47.5	1187	1185	1170	1143	1105	1052	987	917	836	749	698	158	6	1
50.0	1146	1144	1130	1103	1066	1011	946	874	795	704	653	107	4	1
52.5	1100	1098	1087	1059	1024	969	903	830	751	661	608	60	2	1
55.0	1049	1046	1034	1012	976	926	860	786	708	616	562	26	1	0
57.5	994	992	983	959	926	879	814	742	662	571	516	18	1	0
60.0	940	937	926	904	872	830	769	699	618	524	471	12	1	0
62.5	883	879	869	847	815	776	720	651	572	479	425	8	1	0
65.0	826	823	812	790	758	719	669	603	525	434	381	5	0	0
67.5	769	767	755	733	703	663	615	556	480	390	337	3	0	0
70.0	712	710	701	676	647	606	559	505	432	346	293	1	0	0
72.5	656	653	643	620	591	552	503	452	385	302	250	1	0	0
75.0	599	595	587	565	537	498	449	399	337	258	208	1	0	0
77.5	543	542	530	509	482	445	399	347	289	215	167	1	0	0
80.0	489	486	475	455	428	393	345	297	239	173	128	1	0	0
82.5	434	431	420	402	377	342	296	249	193	130	90	1	0	0
85.0	375	378	367	349	322	291	247	203	149	87	53	1	0	0
87.5	321	323	313	295	270	240	201	157	109	46	18	0	0	0
90.0	265	267	258	241	216	188	151	110	68	23	0	0	0	0
92.5	234	231	224	207	185	156	121	80	42	9	0	0	0	0
95.0	197	194	187	171	150	122	90	54	26	3	0	0	0	0
97.5	162	160	154	138	119	94	64	42	21	2	0	0	0	0
100.0	131	129	123	109	91	71	55	37	15	1	0	0	0	0
102.5	103	101	96	86	77	66	51	34	8	0	0	0	0	0
105.0	90	89	86	81	73	62	48	28	4	0	0	0	0	0
107.5	86	85	83	78	70	59	45	20	2	0	0	0	0	0
110.0	82	82	79	75	67	56	38	13	1	0	0	0	0	0
112.5	79	79	76	72	64	53	29	7	1	0	0	0	0	0
115.0	76	76	74	69	62	42	20	3	1	0	0	0	0	0
117.5	74	74	71	66	52	33	14	2	1	0	0	0	0	0
120.0	71	70	66	55	41	24	8	1	1	0	0	0	0	0
122.5	59	59	54	44	31	16	3	1	0	0	0	0	0	0
125.0	47	46	42	34	22	9	1	1	0	0	0	0	0	0
127.5	36	35	32	24	14	4	1	1	0	0	0	0	0	0
130.0	26	25	22	16	7	1	1	1	0	0	0	0	0	0
132.5	17	17	14	8	1	0	0	0	0	0	0	0	0	0
135.0	9	9	7	2	0	0	0	0	0	0	0	0	0	0
137.5	2	2	0	0	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0	0	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

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



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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
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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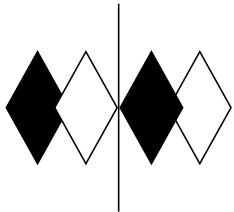
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CANDELA DISTRIBUTION  
LATERAL ANGLE

	180.0
0.0	1246
2.5	1187
5.0	1083
7.5	963
10.0	834
12.5	706
15.0	581
17.5	458
20.0	340
22.5	230
25.0	129
27.5	52
30.0	17
32.5	11
35.0	7
37.5	4
40.0	2
42.5	0
45.0	0
47.5	0
50.0	0
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
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



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CANDELA DISTRIBUTION  
LATERAL ANGLE

	180.0
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	29
5- 10	84
10- 15	131
15- 20	168
20- 25	194
25- 30	211
30- 35	222
35- 40	230
40- 45	233
45- 50	231
50- 55	222
55- 60	209
60- 65	192
65- 70	170
70- 75	144
75- 80	117
80- 85	89
85- 90	60
90- 95	38
95-100	24
100-105	16
105-110	13
110-115	11
115-120	8
120-125	5
125-130	3
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	114
0- 20	414
0- 30	819
0- 40	1270
0- 50	1734
0- 60	2165
0- 70	2526
0- 80	2788
0- 90	2936
0-100	2999
0-110	3028
0-120	3047
0-130	3055
0-140	3056
0-150	3056
0-160	3056
0-170	3056
0-180	3056



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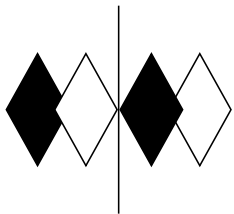
# COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	106	101	96	92	103	98	94	90	93	90	86	89	86	83	84	82	80	78
2	96	88	80	74	93	85	79	73	81	76	71	77	73	68	74	70	66	64
3	88	77	68	62	85	75	67	61	71	65	59	68	62	58	65	60	56	54
4	80	68	59	52	78	67	58	52	63	56	50	61	54	49	58	53	48	46
5	74	61	52	45	72	60	51	45	57	49	44	55	48	43	52	47	42	40
6	69	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	64	50	41	35	62	49	41	35	47	40	34	45	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	28	54	41	34	28	40	33	28	39	32	27	37	31	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	35	29	25	23

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.



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