

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P130030

Luminaire Tested: **HL618TAT - HLM6927 - HL6FL - 455SN**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P130030
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33450)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: HL618TAT - HLM6927 - HL6FL - 455SN
Description: HALO ALLSLOPE 6" 30W, Satin Nickel Reflector, Satin Nickel Metal Trim Ring using 40 Degree Optic at a 6-12 Pitch
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1828.0 lumens
Efficiency: N/A
Efficacy: 66.2 lumens/watt
Spacing Criteria (0/90/45): 1.56 / 0.66 / 1.06
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')
CIE Type: Direct

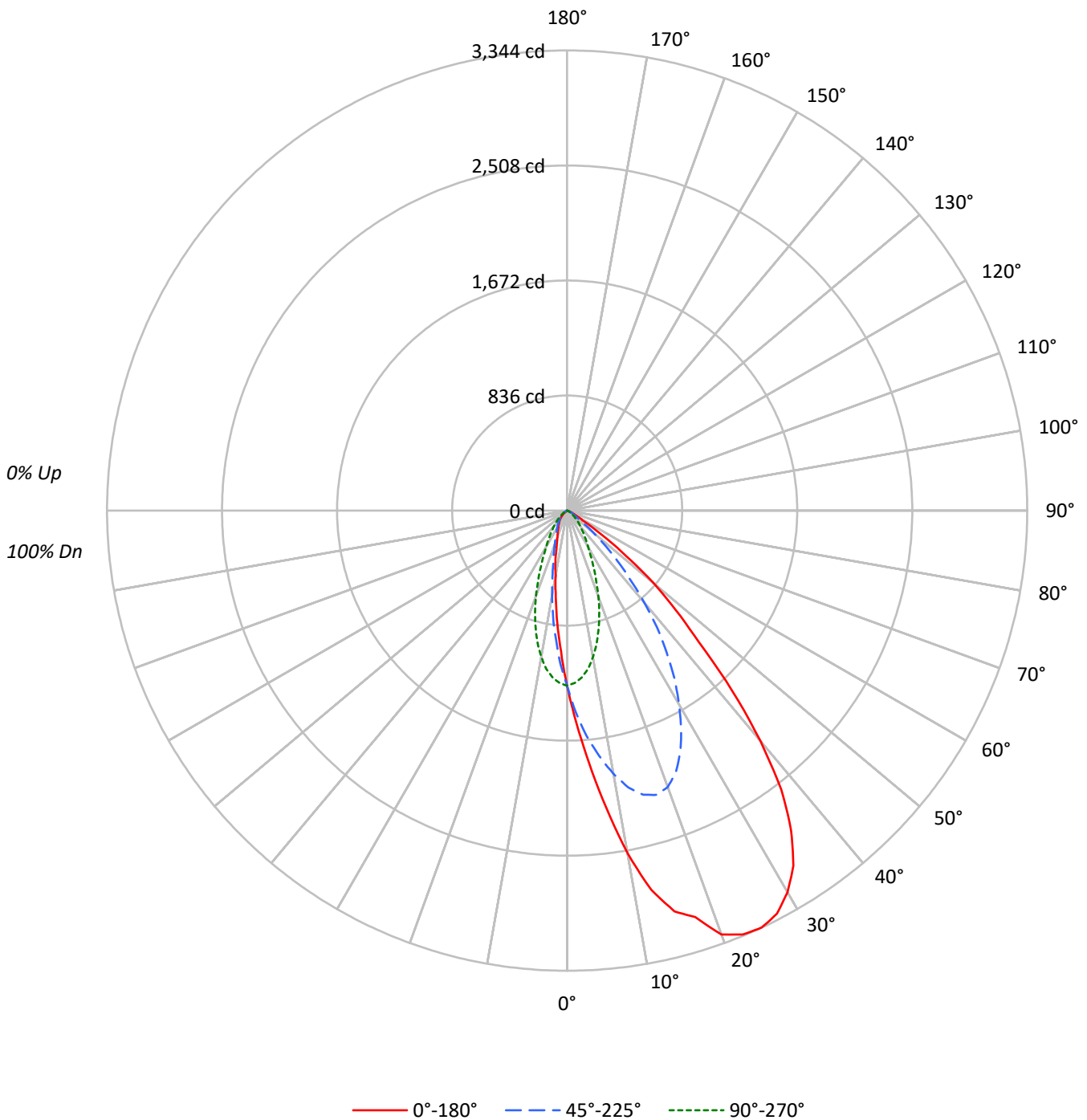
Input Watts (W): 27.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92				92
2	106	101	96	92	104	99	95	91	95	92	89	92	90	87	90	87	85	84				84
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76				76
4	94	85	79	74	92	84	78	73	81	76	72	79	75	72	77	74	71	69				69
5	88	78	72	67	86	77	71	66	75	70	66	74	69	65	72	68	65	63				63
6	83	72	66	61	81	72	65	60	70	64	60	68	63	60	67	63	59	57				57
7	78	67	60	55	76	66	60	55	65	59	55	64	59	55	63	58	54	53				53
8	73	62	56	51	72	62	55	51	61	55	51	60	54	50	58	54	50	49				49
9	69	58	51	47	68	58	51	47	57	51	47	56	50	47	55	50	46	45				45
10	65	54	48	43	64	54	48	43	53	47	43	52	47	43	51	47	43	42				42

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	75986	75986	75986
5°	107863	71323	47900
10°	146426	62589	27849
15°	173932	50997	17480
20°	189861	38459	11989
25°	195960	26605	9142
30°	191403	18226	7350
35°	174361	13086	6082
40°	139025	9557	4842
45°	90370	6803	3335
50°	57621	4514	2186
55°	23160	3093	1056
60°	6704	2044	736
65°	3959	1080	450
70°	1917	504	303
75°	347	347	232
80°	137	274	137
85°	0	339	0



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.2	6.7
10°-20°	356.3	19.5
20°-30°	501.7	27.4
30°-40°	472.5	25.8
40°-50°	273.2	14.9
50°-60°	79.4	4.3
60°-70°	18.2	1.0
70°-80°	3.5	0.2
80°-90°	1.1	0.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	980.1	53.6
0°-40°	1452.6	79.5
0°-60°	1805.2	98.8
0°-90°	1828.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1828.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1273	1273	1273	1273	1273	
5°	1842	1647	1218	937	818	197
15°	3015	2138	884	389	303	849
25°	3344	1942	454	189	156	1529
35°	2838	1260	213	114	99	1738
45°	1355	517	102	61	50	1089
55°	307	81	41	22	14	315
65°	44	28	12	6	5	46
75°	3	3	3	2	2	6
85°	0	1	2	1	0	0
90°	0	0	0	0	0	



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273
2.5°	1542	1529	1541	1513	1533	1493	1485	1478	1478	1471	1433
5°	1842	1812	1827	1795	1801	1739	1721	1691	1677	1647	1584
7.5°	2178	2143	2147	2089	2092	2009	1949	1913	1864	1800	1715
10°	2529	2496	2498	2445	2410	2297	2204	2130	2043	1943	1822
12.5°	2822	2800	2788	2721	2670	2547	2436	2324	2206	2062	1897
15°	3015	3014	3010	2928	2876	2733	2620	2478	2327	2138	1936
17.5°	3098	3163	3161	3073	3014	2864	2737	2573	2393	2166	1972
20°	3278	3263	3259	3162	3102	2941	2796	2608	2400	2137	1881
22.5°	3334	3317	3307	3204	3138	2969	2803	2587	2346	2062	1797
25°	3344	3322	3310	3200	3125	2939	2748	2499	2229	1942	1684
27.5°	3302	3279	3251	3144	3058	2853	2629	2353	2062	1796	1543
30°	3203	3183	3157	3045	2937	2705	2448	2132	1848	1625	1382
32.5°	3060	3032	3004	2866	2736	2483	2209	1907	1655	1453	1229
35°	2838	2825	2774	2615	2464	2183	1934	1684	1488	1260	1054
37.5°	2557	2584	2483	2305	2134	1876	1682	1453	1271	1074	882
40°	2182	2160	2093	1932	1793	1595	1427	1232	1045	871	702
42.5°	1777	1742	1707	1574	1455	1274	1122	953	808	674	530
45°	1355	1351	1314	1208	1125	994	876	758	636	517	393
47.5°	1069	1066	1023	951	889	780	683	583	470	371	289
50°	817	819	786	734	666	581	493	402	309	244	193
52.5°	539	546	527	474	416	344	278	219	171	139	110
55°	307	294	272	247	203	155	129	108	94	81	72
57.5°	139	138	127	112	97	85	77	70	66	61	57
60°	82	81	79	74	69	64	59	55	53	49	45
62.5°	60	59	58	55	52	48	46	45	41	38	35
65°	44	43	43	41	39	37	35	33	30	28	26
67.5°	32	31	31	29	27	26	24	22	21	19	18
70°	19	19	19	18	17	15	14	13	12	11	10
72.5°	9	10	9	9	8	8	7	7	6	6	5
75°	3	4	4	3	3	3	3	3	3	3	3
77.5°	1	1	1	1	1	1	2	2	2	2	2
80°	1	1	1	1	1	1	1	1	1	2	2
82.5°	1	1	1	1	1	1	1	1	1	1	2
85°	0	0	0	1	1	1	1	1	1	1	1
87.5°	0	0	0	0	1	1	1	1	1	1	1
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273
2.5°	1426	1386	1370	1358	1326	1312	1284	1254	1232	1218	1191
5°	1556	1490	1447	1413	1358	1322	1290	1218	1176	1144	1100
7.5°	1665	1572	1502	1441	1362	1304	1249	1160	1100	1055	995
10°	1738	1620	1524	1438	1336	1259	1184	1081	1004	946	883
12.5°	1784	1634	1515	1408	1285	1190	1099	990	903	830	764
15°	1791	1617	1477	1348	1208	1102	1000	884	792	720	637
17.5°	1764	1567	1406	1262	1115	1001	890	776	684	597	523
20°	1700	1487	1315	1159	1010	891	778	664	572	489	428
22.5°	1609	1387	1205	1046	899	775	667	550	463	401	354
25°	1488	1264	1082	925	776	656	553	454	379	334	295
27.5°	1319	1128	950	799	665	542	449	370	318	280	248
30°	1192	984	818	676	544	441	367	305	266	234	208
32.5°	1034	840	688	554	437	360	304	256	222	199	179
35°	872	703	558	440	353	297	253	213	187	168	153
37.5°	719	563	435	347	288	241	207	178	158	144	132
40°	564	433	337	275	229	196	171	150	134	123	115
42.5°	422	325	264	219	186	163	144	127	114	106	97
45°	317	252	209	177	150	132	116	102	92	85	79
47.5°	237	190	158	133	113	99	88	78	72	69	65
50°	159	128	108	92	81	73	68	64	60	57	54
52.5°	97	82	74	66	63	60	56	52	47	45	42
55°	67	61	58	54	51	48	44	41	38	37	34
57.5°	54	50	47	43	40	38	36	33	30	29	27
60°	42	39	37	34	32	30	28	25	23	21	19
62.5°	33	30	28	26	24	22	20	18	16	15	13
65°	25	22	20	18	16	15	13	12	10	10	8
67.5°	16	14	13	12	11	9	8	7	7	6	6
70°	9	8	7	7	6	6	5	5	4	4	4
72.5°	5	4	4	4	4	4	4	4	3	3	3
75°	3	3	3	3	3	3	3	3	3	3	3
77.5°	2	2	2	2	2	2	2	2	2	2	2
80°	2	2	2	2	2	2	2	2	2	2	2
82.5°	2	2	2	2	2	2	2	2	2	2	2
85°	2	2	2	2	2	2	2	2	2	2	2
87.5°	1	1	1	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273	1273
2.5°	1189	1158	1131	1127	1111	1114	1091	1070	1090	1042	1042
5°	1080	1037	993	976	948	937	910	887	878	846	840
7.5°	967	911	858	832	795	782	749	718	696	671	659
10°	836	777	722	692	649	625	593	556	549	508	499
12.5°	708	644	592	553	513	493	459	435	418	394	387
15°	584	524	472	442	407	389	367	348	335	318	312
17.5°	477	422	381	359	334	318	302	284	275	261	255
20°	385	348	312	294	276	263	250	235	230	220	215
22.5°	324	293	262	245	230	223	212	200	196	187	185
25°	270	241	221	209	197	189	180	171	168	161	160
27.5°	226	206	189	179	168	163	156	149	151	142	140
30°	190	176	162	155	146	143	138	132	129	126	126
32.5°	166	152	141	136	129	128	124	118	119	114	113
35°	144	132	125	120	116	114	111	106	105	102	101
37.5°	125	116	110	107	103	101	98	92	93	90	89
40°	109	102	96	94	89	88	85	80	80	77	77
42.5°	92	87	81	78	75	74	72	68	67	65	64
45°	76	71	68	65	63	61	59	56	55	53	52
47.5°	63	59	55	53	50	49	47	45	44	42	41
50°	51	47	44	42	40	40	38	35	34	33	32
52.5°	40	38	36	34	32	31	29	26	25	24	23
55°	32	30	27	26	23	22	20	19	17	16	16
57.5°	25	22	20	18	16	16	14	13	12	11	11
60°	18	15	14	12	11	10	10	9	9	8	8
62.5°	12	10	9	9	8	8	7	7	7	7	7
65°	8	7	7	6	6	6	6	6	6	6	6
67.5°	6	5	5	5	5	5	5	5	5	4	4
70°	4	4	4	4	4	4	4	3	3	3	3
72.5°	3	3	3	3	3	3	3	3	3	2	2
75°	3	3	2	2	2	2	2	2	2	2	2
77.5°	2	2	2	2	2	2	2	1	1	1	1
80°	2	2	2	2	1	1	1	1	1	1	1
82.5°	2	2	1	1	1	1	1	1	1	1	1
85°	2	1	1	1	1	1	1	1	1	0	0
87.5°	2	1	1	1	1	1	1	1	1	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P130030

CATALOG NUMBER: HL618TAT - HLM6927 - HL6FL - 455SN

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1273	1273	1273	1273
2.5°	1050	1044	1036	1024
5°	844	818	826	818
7.5°	667	644	642	633
10°	497	486	480	481
12.5°	389	377	372	398
15°	313	301	301	303
17.5°	253	248	246	244
20°	214	210	207	207
22.5°	183	180	177	179
25°	159	156	155	156
27.5°	141	138	135	137
30°	126	124	123	123
32.5°	114	112	111	111
35°	102	99	99	99
37.5°	89	87	87	88
40°	77	72	75	76
42.5°	64	62	62	63
45°	51	50	50	50
47.5°	41	40	39	40
50°	31	30	30	31
52.5°	22	21	21	21
55°	15	15	14	14
57.5°	11	10	10	10
60°	8	8	8	9
62.5°	7	7	7	7
65°	6	6	5	5
67.5°	4	4	4	4
70°	3	3	3	3
72.5°	2	2	2	2
75°	2	2	2	2
77.5°	1	1	1	1
80°	1	1	1	1
82.5°	0	0	0	0
85°	0	0	0	0
87.5°	0	0	0	0
90°	0	0	0	0

(END OF REPORT)