

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P13202

Luminaire Tested: **PA6-6AC_25PAR38CMH**

Issue Date: 03/03/2020



Test Information

Test Method: LM-79-08
Report Number: P13202
Test Lab: PEACHTREE CITY P1
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PA6-6AC_25PAR38CMH
Description: HALO HID RECESSED DOWNLIGHT FIXTURE WITH ADJUSTABLE LAMP
Light Source: (1) MEDIUM BASE PAR38 CERAMIC METAL HALIDE LAMP
CDM-I 25/PAR38/SP/3K 25 WATTS
Ballast/Driver: (1) CHROMA 61604 AC SOURCE
(1) CHROMA 61604 AC SOURCE

Summary

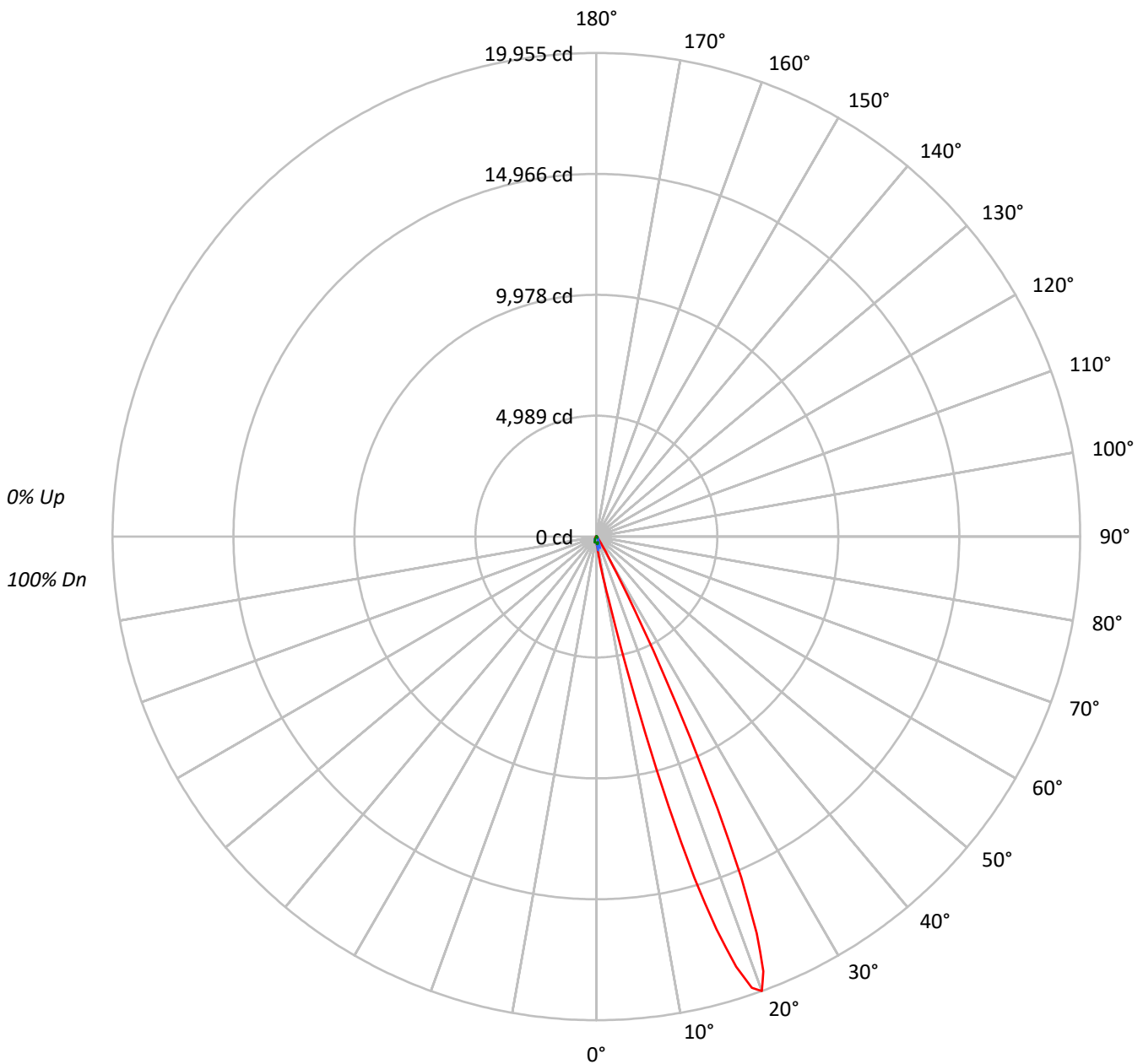
Lumens per Lamp: 1220 (1 lamp)
Luminaire Lumens: 1062.0 lumens
Efficiency: 87.0%
Efficacy: 43.7 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 0.78 / 0.9
Luminous Opening: Vertical Cylinder (Dia: 0.54' x H: 0.1')
CIE Type: Direct

Input Watts (W): 24.3
Input Voltage (V): NR
Input Current (Ain): 0.34034
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

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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270°



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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	104	104	104	104	101	101	101	101	97	97	97	93	93	93	89	89	89	87				
1	99	96	94	92	97	95	93	91	91	90	88	88	87	86	85	84	83	82				
2	94	90	87	84	92	89	86	83	86	83	81	83	81	79	81	79	78	76				
3	90	84	80	77	88	83	79	76	81	78	75	79	76	74	77	75	73	72				
4	86	79	75	71	84	78	74	71	77	73	70	75	72	69	73	71	68	67				
5	82	75	70	66	80	74	69	66	72	68	65	71	67	65	70	67	64	63				
6	78	70	65	62	77	70	65	62	68	64	61	67	64	61	66	63	60	59				
7	74	66	61	58	73	66	61	58	65	61	57	64	60	57	63	59	57	56				
8	71	63	58	54	70	62	58	54	61	57	54	60	57	54	60	56	54	52				
9	67	59	54	51	67	59	54	51	58	54	51	57	54	51	57	53	51	49				
10	64	56	51	48	64	56	51	48	55	51	48	55	51	48	54	50	48	47				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	12051	12051	12051
5°	19526	13783	12267
10°	89038	14346	10156
15°	524398	11737	10463
20°	913755	7830	9021
25°	425466	5852	7757
30°	54283	4559	5272
35°	14346	4701	5288
40°	5959	4074	1019
45°	5402	2300	856
50°	1306	511	0
55°	854	0	0
60°	332	266	0
65°	0	0	367
70°	332	1079	913
75°	0	0	0
80°	3689	115	0
85°	291	145	0



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	38.8	3.7	3.2	0°	258	258	258	258	258	
10°-20°	442.5	41.7	36.3	5°	425	395	300	250	267	87
20°-30°	450.3	42.4	36.9	15°	11527	615	258	221	230	3538
30°-40°	79.6	7.5	6.5	25°	9160	204	126	179	167	4266
40°-50°	32.4	3.0	2.7	35°	293	106	96	115	108	241
50°-60°	7.2	0.7	0.6	45°	101	80	43	12	16	66
60°-70°	3.1	0.3	0.3	55°	14	9	0	9	0	21
70°-80°	4.0	0.4	0.3	65°	0	1	0	0	5	2
80°-90°	4.2	0.4	0.3	75°	0	0	0	0	0	5
90°-100°	0.0	0.0	0.0	85°	2	2	1	2	0	8
100°-110°	0.0	0.0	0.0	90°	0	0	0	0	0	
110°-120°	0.0	0.0	0.0							
120°-130°	0.0	0.0	0.0							
130°-140°	0.0	0.0	0.0							
140°-150°	0.0	0.0	0.0							
150°-160°	0.0	0.0	0.0							
160°-170°	0.0	0.0	0.0							
170°-180°	0.0	0.0	0.0							
0°-30°	931.5	87.7	76.4							
0°-40°	1011.1	95.2	82.9							
0°-60°	1050.7	98.9	86.1							
0°-90°	1062.0	100.0	87.0							
90°-120°	0.0	0.0	0.0							
90°-150°	0.0	0.0	0.0							
90°-180°	0.0	0.0	0.0							
0°-180°	1062.0	100.0	87.0							



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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	258	258	258	258	258	258	258	258	258	258	258
2.5°	285	283	279	290	283	285	279	280	283	288	295
5°	425	425	417	426	420	430	418	423	419	421	423
7.5°	903	882	886	879	885	883	884	873	879	868	866
10°	1955	1939	1919	1940	1921	1904	1887	1867	1850	1823	1804
11°	2649	2638	2625	2599	2598	2575	2547	2494	2467	2412	2367
12°	3841	3804	3795	3781	3739	3658	3628	3574	3454	3374	3274
13°	5681	5713	5669	5589	5512	5411	5331	5193	4983	4855	4672
14°	8375	8339	8276	8262	8072	7884	7635	7537	7224	6880	6639
15°	11527	11561	11425	11310	11090	10914	10577	10330	9838	9475	9014
16°	14638	14494	14475	14377	14119	13866	13493	13146	12626	12089	11553
17°	16936	16953	16901	16729	16511	16208	15837	15458	14871	14292	13651
18°	18666	18616	18535	18442	18119	17827	17416	16910	16415	15782	15099
19°	19687	19702	19577	19389	19074	18723	18269	17812	17203	16519	15830
20°	19955	19976	19836	19658	19210	18863	18437	17888	17253	16479	15711
21°	19215	19217	19130	18823	18555	18192	17664	17065	16400	15635	14797
22°	17652	17739	17570	17432	17023	16631	16116	15536	14810	13986	13109
23°	15288	15396	15256	15197	14777	14381	13908	13286	12653	11774	10946
24°	12281	12373	12249	12093	11856	11455	11102	10433	9906	9163	8480
25°	9160	9095	8961	8870	8650	8333	8020	7524	7176	6597	6142
26°	6306	6336	6253	6101	5975	5752	5520	5173	4923	4589	4242
27°	4236	4203	4138	4101	3979	3796	3664	3427	3278	3026	2844
28°	2709	2705	2661	2648	2545	2465	2367	2254	2130	2008	1902
29°	1703	1727	1691	1670	1628	1614	1547	1486	1426	1338	1286
30°	1143	1157	1148	1134	1117	1081	1064	1046	994	958	915
32.5°	531	530	528	522	512	504	491	476	465	448	437
35°	293	304	271	289	278	261	267	258	254	277	251
37.5°	154	156	158	153	153	157	162	149	150	151	155
40°	117	113	116	112	119	136	142	120	123	127	124
42.5°	101	100	109	104	103	106	96	111	98	92	93
45°	101	101	98	107	96	94	102	96	99	91	101
47.5°	74	97	82	88	80	78	69	74	97	107	83
50°	23	35	28	24	24	29	22	34	28	25	29
52.5°	14	19	23	34	15	28	20	17	13	19	21
55°	14	4	4	9	12	6	13	2	9	3	11
57.5°	52	4	1	19	32	16	4	1	2	2	8
60°	5	10	1	3	5	6	5	5	2	9	3
62.5°	0	3	2	12	7	0	8	5	0	0	0
65°	0	5	1	4	0	9	1	3	5	0	5
67.5°	4	10	1	3	0	0	1	3	1	24	7
70°	4	6	8	3	2	0	0	10	19	3	9
72.5°	0	1	0	1	0	0	0	0	4	0	0
75°	0	0	0	0	0	0	0	0	0	0	0
77.5°	2	21	0	0	0	0	1	0	0	8	6
80°	32	1	1	4	8	22	0	0	0	0	9



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CANDELA DISTRIBUTION (continued):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
82.5°	9	3	4	5	1	5	6	7	3	1	3
85°	2	14	4	0	0	0	1	11	2	5	4
87.5°	2	3	4	0	14	4	9	0	3	0	4
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	12.5°	15°	17.5°	20°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0°	258	258	258	258	258	258	258	258	258	258	258
2.5°	280	283	286	292	288	275	267	260	247	247	241
5°	423	425	423	426	430	395	339	300	274	250	237
7.5°	853	846	821	801	783	567	404	311	261	235	225
10°	1737	1648	1558	1463	1356	696	424	315	262	249	227
11°	2245	2071	1926	1761	1612	693	401	306	258	248	234
12°	2999	2732	2445	2176	1920	693	374	287	249	241	237
13°	4198	3708	3226	2753	2354	650	343	262	242	226	220
14°	5856	5083	4277	3520	2889	628	303	258	235	218	223
15°	7844	6666	5457	4386	3471	615	296	258	231	221	216
16°	9962	8347	6728	5235	4023	579	282	240	211	218	212
17°	11783	9804	7801	5995	4510	520	245	227	223	214	237
18°	13055	10788	8497	6420	4725	455	222	209	216	209	226
19°	13633	11184	8688	6433	4684	407	190	195	206	202	206
20°	13425	10874	8354	6089	4354	346	161	171	186	192	190
21°	12419	9922	7483	5396	3858	316	152	167	175	181	188
22°	10689	8425	6311	4565	3241	276	142	145	166	169	181
23°	8795	6830	5107	3706	2618	248	143	137	158	169	178
24°	6771	5274	3906	2822	2009	223	133	131	150	153	163
25°	4915	3811	2849	2086	1514	204	124	126	144	179	155
26°	3419	2664	2011	1499	1142	179	115	109	121	140	153
27°	2311	1837	1420	1115	900	170	117	111	119	127	132
28°	1557	1274	1063	866	705	146	106	106	128	114	130
29°	1112	941	800	671	570	147	102	104	106	122	128
30°	807	740	616	517	433	158	119	96	101	108	134
32.5°	395	353	306	279	244	114	97	96	86	102	103
35°	247	238	213	197	167	106	95	96	109	115	99
37.5°	153	150	147	136	121	91	84	85	88	79	69
40°	122	110	117	105	118	85	83	80	83	44	43
42.5°	93	104	90	91	83	86	76	62	36	17	13
45°	87	97	94	97	92	80	56	43	18	12	18
47.5°	78	87	68	65	65	38	23	10	4	0	0
50°	29	27	23	26	22	19	13	9	5	7	6
52.5°	19	14	54	15	18	18	11	5	25	26	15
55°	8	3	1	8	4	9	1	0	3	9	4
57.5°	3	21	4	23	3	3	2	2	4	15	0
60°	4	2	3	3	4	0	4	4	4	0	1
62.5°	11	1	20	5	4	0	0	0	4	1	13
65°	6	1	0	3	3	1	4	0	2	0	0
67.5°	7	2	4	4	2	1	0	1	0	0	0
70°	0	12	16	1	13	13	23	13	7	10	0
72.5°	1	4	0	0	0	0	1	3	4	0	2
75°	0	0	0	0	0	0	0	0	0	0	13
77.5°	2	0	1	0	3	0	1	0	2	1	5
80°	1	22	2	31	0	1	3	1	31	37	0



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CANDELA DISTRIBUTION (continued):

	12.5°	15°	17.5°	20°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
82.5°	0	3	4	0	5	4	6	3	0	9	2
85°	5	0	17	0	1	2	0	1	7	2	7
87.5°	4	1	11	1	8	0	4	2	4	0	2
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	180°
0°	258
2.5°	241
5°	267
7.5°	217
10°	223
11°	224
12°	230
13°	217
14°	224
15°	230
16°	214
17°	230
18°	217
19°	206
20°	197
21°	196
22°	192
23°	196
24°	181
25°	167
26°	156
27°	140
28°	140
29°	127
30°	111
32.5°	106
35°	108
37.5°	63
40°	20
42.5°	13
45°	16
47.5°	29
50°	0
52.5°	0
55°	0
57.5°	0
60°	0
62.5°	0
65°	5
67.5°	0
70°	11
72.5°	0
75°	0
77.5°	0
80°	0



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CANDELA DISTRIBUTION (continued):

	180°
82.5°	16
85°	0
87.5°	0
90°	0

(END OF REPORT)