

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: P13201

Luminaire Tested: **PA6-6AC_100PAR38INC**

Issue Date: 03/03/2020



Test Information

Test Method: LM-79-08
Report Number: P13201
Test Lab: PEACHTREE CITY P1
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PA6-6AC_100PAR38INC
Description: HALO INCANDESCENT RECESSED DOWNLIGHT FIXTURE WITH ADJUSTABLE
LAMP HOLDER AND 6AC SPECULAR CLEAR TRIM
Light Source: (1) MEDIUM BASE PAR38 HALOGEN INCANDESCENT LAMP
100PAR38/HIR/FL 100 WATTS
Ballast/Driver: (1) CHROMA 61604 AC SOURCE
(1) CHROMA 61604 AC SOURCE

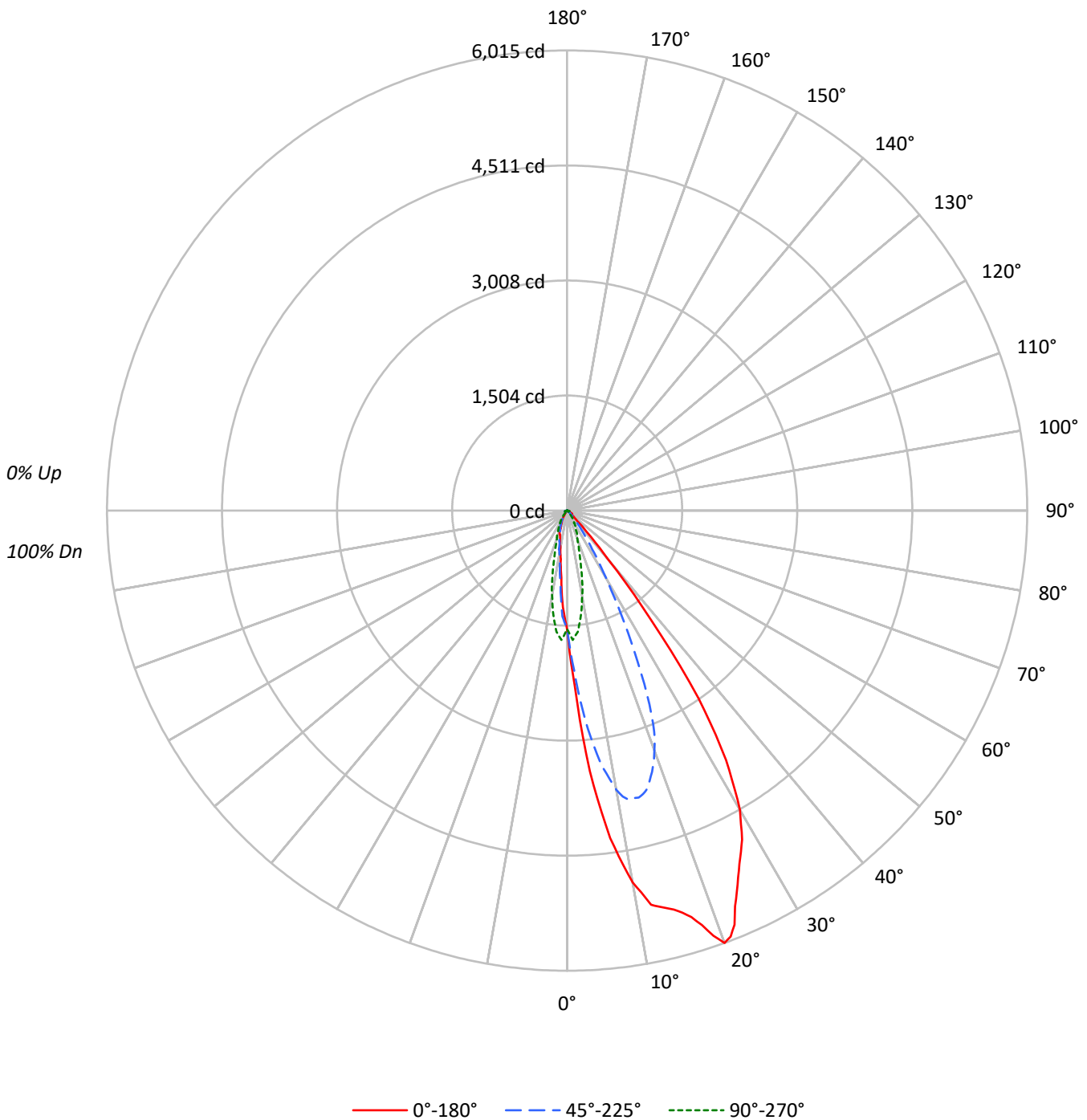
Summary

Lumens per Lamp: 2070 (1 lamp)
Luminaire Lumens: 1732.1 lumens
Efficiency: 83.7%
Efficacy: 16.7 lumens/watt
Spacing Criteria (0/90/45): 1.42 / 0.46 / 0.81
Luminous Opening: Vertical Cylinder (Dia: 0.54' x H: 0.1')
CIE Type: Direct

Input Watts (W): 103.8
Input Voltage (V): NR
Input Current (Ain): 0.8629
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





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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	100	100	100	100	97	97	97	97	93	93	93	89	89	89	85	85	85	84				
1	95	93	91	89	93	91	89	88	88	86	85	85	83	82	82	81	80	78				
2	91	87	83	81	89	85	82	80	83	80	78	80	78	76	78	76	75	73				
3	86	81	77	74	85	80	76	73	78	75	72	76	73	71	74	72	70	69				
4	82	76	72	68	81	75	71	68	73	70	67	72	69	66	70	68	65	64				
5	78	71	67	63	77	71	66	63	69	65	62	68	65	62	67	64	61	60				
6	74	67	62	59	73	67	62	59	65	61	58	64	61	58	63	60	58	56				
7	71	63	59	55	70	63	58	55	62	58	55	61	57	55	60	57	54	53				
8	68	60	55	52	67	60	55	52	59	54	52	58	54	51	57	54	51	50				
9	65	57	52	49	64	56	52	49	56	51	49	55	51	48	54	51	48	47				
10	62	54	49	46	61	53	49	46	53	49	46	52	48	46	52	48	46	45				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	72355	72355	72355
5°	157267	73051	40477
10°	224894	51282	23227
15°	245572	29889	16332
20°	275432	17858	11448
25°	245618	12541	7943
30°	214567	8691	4512
35°	146745	5876	1567
40°	42374	1935	51
45°	8183	1337	0
50°	2384	624	0
55°	854	122	0
60°	531	133	133
65°	0	73	955
70°	1079	2655	1577
75°	0	2980	961
80°	3344	692	0
85°	0	0	0



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	183.6	10.6	8.9	0°	1549	1549	1549	1549	1549	
10°-20°	534.1	30.8	25.8	5°	3423	2761	1590	994	881	371
20°-30°	618.3	35.7	29.9	15°	5398	3836	657	394	359	1559
30°-40°	330.8	19.1	16.0	25°	5288	2181	270	208	171	2437
40°-50°	45.5	2.6	2.2	35°	2997	413	120	68	32	1732
50°-60°	6.1	0.4	0.3	45°	153	50	25	6	0	199
60°-70°	3.2	0.2	0.2	55°	14	15	2	2	0	27
70°-80°	8.7	0.5	0.4	65°	0	1	1	1	13	3
80°-90°	1.9	0.1	0.1	75°	0	0	31	1	10	13
90°-100°	0.0	0.0	0.0	85°	0	0	0	0	0	5
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°	1336.0	77.1	64.5							
0°-40°	1666.7	96.2	80.5							
0°-60°	1718.4	99.2	83.0							
0°-90°	1732.1	100.0	83.7							
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°	1732.1	100.0	83.7							



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CANDELA DISTRIBUTION (FULL):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
0°	1549	1549	1549	1549	1549	1549	1549	1549	1549	1549	1549
2.5°	2293	2288	2274	2289	2286	2287	2279	2293	2297	2267	2280
5°	3423	3424	3418	3428	3407	3426	3406	3412	3404	3386	3393
7.5°	4320	4322	4329	4320	4315	4301	4311	4279	4275	4280	4257
10°	4938	4934	4933	4936	4924	4924	4913	4909	4902	4891	4879
11°	5084	5090	5127	5085	5111	5087	5099	5063	5062	5077	5032
12°	5267	5225	5231	5225	5225	5212	5202	5220	5189	5192	5178
13°	5312	5311	5301	5306	5304	5292	5291	5281	5254	5249	5239
14°	5356	5365	5360	5355	5351	5356	5340	5344	5321	5321	5313
15°	5398	5405	5396	5404	5402	5402	5396	5380	5366	5364	5358
16°	5467	5483	5467	5463	5451	5463	5435	5423	5427	5389	5402
17°	5557	5562	5541	5562	5537	5536	5497	5484	5475	5436	5427
18°	5697	5693	5686	5675	5635	5612	5600	5565	5506	5478	5436
19°	5879	5873	5841	5789	5733	5681	5629	5580	5531	5496	5458
20°	6015	6004	5969	5916	5853	5769	5693	5633	5565	5534	5472
21°	5963	5953	5916	5874	5806	5736	5674	5605	5557	5499	5454
22°	5839	5787	5758	5739	5674	5626	5571	5545	5467	5417	5377
23°	5619	5613	5611	5562	5529	5495	5448	5408	5350	5309	5269
24°	5453	5446	5448	5432	5407	5366	5324	5293	5242	5210	5166
25°	5288	5291	5283	5286	5282	5240	5233	5171	5138	5139	5058
26°	5139	5135	5130	5132	5116	5094	5074	5057	5028	4996	4953
27°	5005	5003	4999	5023	4989	4981	4971	4950	4920	4898	4860
28°	4871	4874	4869	4864	4845	4830	4812	4829	4779	4748	4713
29°	4689	4706	4684	4683	4685	4667	4665	4617	4608	4555	4532
30°	4518	4535	4521	4506	4502	4495	4462	4443	4424	4382	4369
32.5°	3865	3879	3869	3851	3847	3813	3799	3757	3724	3691	3651
35°	2997	2925	2918	2925	2882	2855	2824	2805	2733	2691	2638
37.5°	1795	1768	1779	1748	1743	1714	1667	1637	1597	1564	1512
40°	832	827	823	822	811	791	789	773	770	728	701
42.5°	370	365	376	373	374	364	363	352	358	335	332
45°	153	150	150	156	154	160	151	152	159	149	143
47.5°	107	86	104	115	98	81	94	98	80	106	88
50°	42	50	54	48	44	49	52	55	50	55	53
52.5°	0	0	0	0	0	10	0	29	14	0	6
55°	14	13	25	20	24	15	16	19	19	18	22
57.5°	79	7	16	25	22	10	6	44	18	9	10
60°	8	3	6	7	7	10	5	6	6	6	3
62.5°	0	1	0	0	0	0	0	4	0	0	4
65°	0	4	2	11	3	1	0	2	1	15	0
67.5°	0	2	2	4	4	3	1	1	1	0	0
70°	13	0	11	25	10	5	4	1	20	14	7
72.5°	12	1	4	5	2	1	2	5	10	0	11
75°	0	0	4	17	8	17	4	0	23	3	31
77.5°	15	9	2	0	8	7	3	9	7	5	11
80°	29	8	20	0	9	0	3	39	0	7	5



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CANDELA DISTRIBUTION (continued):

	0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
82.5°	4	2	3	5	0	4	0	5	0	4	6
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	12	4	0	0	4	0	5	4	2	0
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°	1549	1549	1549	1549	1549	1549	1549	1549	1549	1549	1549
2.5°	2269	2265	2255	2247	2239	2095	1901	1693	1512	1386	1305
5°	3361	3349	3310	3289	3246	2761	2157	1590	1210	994	883
7.5°	4235	4219	4168	4129	4061	3324	2253	1379	923	722	653
10°	4870	4823	4781	4713	4657	3708	2188	1126	719	579	537
11°	5017	4977	4932	4861	4808	3807	2109	1053	655	537	489
12°	5155	5104	5051	4995	4939	3865	2039	948	613	520	468
13°	5213	5192	5131	5069	4996	3856	1919	838	545	439	414
14°	5273	5226	5176	5111	5047	3867	1798	745	500	419	389
15°	5313	5254	5205	5131	5060	3836	1658	657	452	394	378
16°	5326	5278	5209	5122	5056	3788	1484	594	421	370	353
17°	5347	5289	5203	5120	5046	3688	1383	527	380	329	335
18°	5362	5283	5193	5110	5024	3591	1225	487	360	321	307
19°	5374	5266	5158	5055	4948	3478	1039	417	303	273	264
20°	5356	5244	5124	5026	4902	3332	939	390	290	270	260
21°	5320	5205	5089	4955	4845	3196	829	376	277	263	234
22°	5268	5148	5026	4887	4763	3003	733	356	268	273	232
23°	5161	5071	4939	4814	4686	2753	643	330	232	226	210
24°	5064	4973	4862	4741	4619	2481	562	296	236	210	182
25°	4970	4872	4770	4650	4520	2181	513	270	209	208	172
26°	4868	4768	4670	4538	4414	1901	447	259	200	176	169
27°	4771	4673	4551	4419	4272	1656	404	228	202	169	147
28°	4626	4521	4391	4264	4120	1411	363	224	175	144	129
29°	4437	4332	4193	4046	3868	1191	324	185	155	109	103
30°	4243	4110	3977	3806	3582	1010	291	183	133	110	87
32.5°	3508	3332	3132	2931	2673	651	238	151	112	81	65
35°	2466	2324	2109	1881	1676	413	184	120	67	68	28
37.5°	1426	1291	1152	1036	904	272	136	87	52	30	24
40°	650	596	550	492	442	171	114	38	11	4	4
42.5°	304	287	273	256	224	123	53	35	10	12	4
45°	153	149	120	118	121	50	29	25	0	6	2
47.5°	83	79	94	75	63	52	28	29	13	9	20
50°	47	50	40	40	39	26	9	11	0	3	5
52.5°	5	5	0	0	0	0	0	0	0	0	0
55°	15	28	16	19	15	15	0	2	9	2	2
57.5°	15	22	15	6	12	7	4	5	6	36	1
60°	10	14	7	8	6	4	0	2	0	3	5
62.5°	0	0	0	0	5	0	0	0	0	0	0
65°	1	12	2	1	0	1	3	1	0	1	1
67.5°	0	0	1	3	5	3	0	1	0	4	0
70°	30	11	12	13	8	1	7	32	16	4	30
72.5°	5	1	5	8	22	6	8	7	2	5	9
75°	16	1	1	6	4	0	4	31	2	1	1
77.5°	8	2	9	5	8	4	15	6	11	9	6
80°	4	0	34	0	1	1	0	6	4	33	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°	3	0	4	3	4	3	0	1	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0
87.5°	0	0	4	0	0	9	0	0	0	4	4
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	180°
0°	1549
2.5°	1265
5°	881
7.5°	640
10°	510
11°	470
12°	458
13°	409
14°	383
15°	359
16°	336
17°	322
18°	324
19°	304
20°	250
21°	251
22°	218
23°	203
24°	180
25°	171
26°	153
27°	149
28°	128
29°	97
30°	95
32.5°	50
35°	32
37.5°	16
40°	1
42.5°	13
45°	0
47.5°	1
50°	0
52.5°	0
55°	0
57.5°	7
60°	2
62.5°	0
65°	13
67.5°	0
70°	19
72.5°	0
75°	10
77.5°	15
80°	0



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CANDELA DISTRIBUTION (continued):

	180°
82.5°	0
85°	0
87.5°	0
90°	0

(END OF REPORT)