

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: P21690

Luminaire Tested: **PD6V120-60VWWC_16PAR38LED**

Issue Date: 03/03/2020



Test Information

Test Method: LM-79-08
Report Number: P21690
Test Lab: INNOVATION CENTER P2
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: PD6V120-60VWWC_16PAR38LED
Description: HALO 6 INCH RECESSED LED WALL WASH DOWNLIGHT
VERTICAL LAMP AND SPECULAR CLEAR TRIM WITH SPECULAR KICKER
Light Source: (1) PAR 38 LED 16 WATTS
16E26PAR38
Ballast/Driver: -

Summary

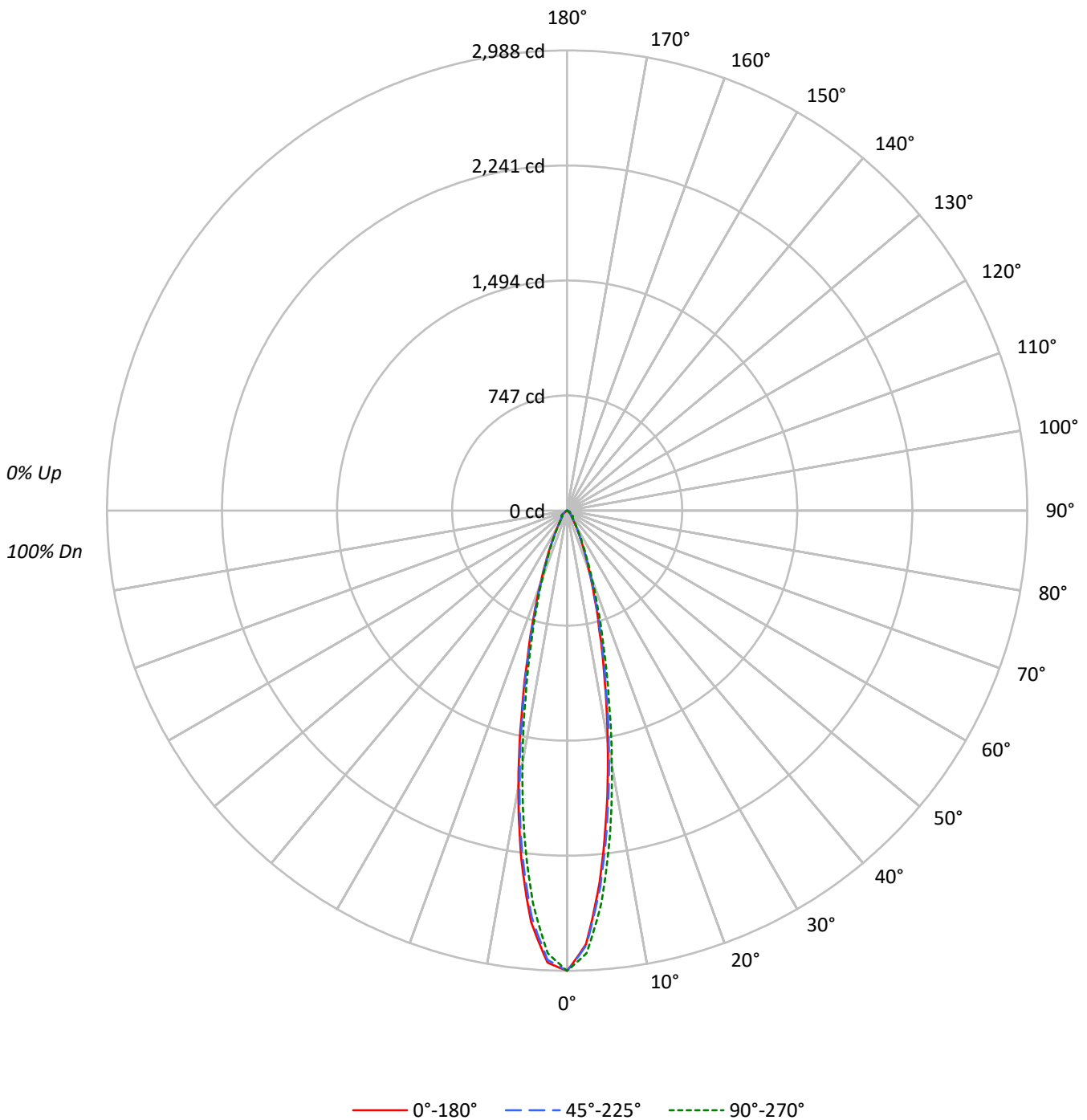
Lumens per Lamp: N/A
Luminaire Lumens: 683.9 lumens
Efficiency: N/A
Efficacy: 45.3 lumens/watt
Spacing Criteria (0/90/45): 0.37 / 0.37 / 0.4
Luminous Opening: Vertical Cylinder (Dia: 0.52' x H: 0.1')
CIE Type: Direct

Input Watts (W): 15.1
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

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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	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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95					95			
2	110	106	102	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91					91			
3	106	100	96	93	104	99	95	92	97	93	91	94	92	90	92	90	88	87					87			
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83					83			
5	98	91	87	83	97	91	86	83	89	85	82	87	84	82	86	83	81	80					80			
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	77					77			
7	92	84	80	76	91	84	79	76	83	79	76	82	78	75	80	77	75	74					74			
8	89	81	77	73	88	81	76	73	80	76	73	79	75	73	78	75	72	71					71			
9	86	79	74	71	85	78	74	71	77	73	70	76	73	70	76	72	70	69					69			
10	84	76	71	68	83	76	71	68	75	71	68	74	71	68	74	70	68	67					67			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	150961	150961	150961
5°	120161	126864	133170
10°	74314	82183	89609
15°	39860	44671	48942
20°	20687	23106	25180
25°	10509	11660	12660
30°	5368	6084	6544
35°	3054	3634	3792
40°	2080	2736	2791
45°	1550	2986	2871
50°	1156	2435	2556
55°	914	718	849
60°	1420	142	213
65°	1333	78	157
70°	619	88	88
75°	408	102	102
80°	244	122	122
85°	153	153	153



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.1	31.5
10°-20°	257.3	37.6
20°-30°	112.4	16.4
30°-40°	44.7	6.5
40°-50°	32.3	4.7
50°-60°	14.2	2.1
60°-70°	5.9	0.9
70°-80°	1.7	0.2
80°-90°	0.3	0.0
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°	584.9	85.5
0°-40°	629.6	92.1
0°-60°	676.1	98.9
0°-90°	683.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	683.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2988	2988	2988	2988	2988	
5°	2420	2455	2555	2646	2682	202
15°	812	845	910	973	997	231
25°	210	214	233	246	253	102
35°	58	60	69	72	72	39
45°	27	30	52	48	50	21
55°	14	15	11	11	13	14
65°	17	16	1	1	2	16
75°	4	3	1	0	1	4
85°	1	1	1	0	1	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988
2.5°	2818	2816	2819	2818	2819	2818	2821	2821	2827	2828	2833
5°	2420	2420	2422	2422	2427	2427	2434	2443	2449	2455	2465
7.5°	1962	1954	1957	1959	1966	1969	1978	1987	1996	2006	2021
10°	1511	1504	1510	1512	1518	1521	1528	1539	1546	1556	1570
12.5°	1119	1115	1118	1119	1126	1126	1135	1137	1147	1156	1167
15°	812	811	814	814	819	820	826	831	838	845	850
17.5°	587	584	586	586	591	591	595	599	603	608	613
20°	419	417	420	419	421	422	426	428	431	434	437
22.5°	297	295	296	296	297	297	299	301	303	305	308
25°	210	208	208	208	209	209	210	211	212	214	215
27.5°	148	146	147	146	147	146	147	148	149	150	151
30°	105	105	105	105	105	105	105	106	107	108	109
32.5°	77	76	77	76	77	77	77	78	79	79	80
35°	58	58	58	58	58	58	58	59	59	60	62
37.5°	46	45	46	46	45	46	46	47	47	48	50
40°	38	37	38	37	37	37	38	38	39	40	42
42.5°	32	31	31	31	31	31	32	32	33	34	37
45°	27	27	27	26	27	27	27	28	29	30	33
47.5°	23	23	23	22	23	23	24	24	25	26	29
50°	19	19	19	18	19	20	21	22	22	23	25
52.5°	16	16	15	15	15	16	16	16	17	17	18
55°	14	13	14	13	14	14	14	14	14	15	14
57.5°	15	15	15	15	16	16	16	16	16	16	15
60°	20	20	20	20	20	20	19	19	19	18	17
62.5°	22	21	21	21	20	20	19	19	18	17	16
65°	17	17	18	17	17	18	17	17	17	16	15
67.5°	13	12	12	12	12	12	12	12	12	12	11
70°	7	7	8	7	7	7	7	7	7	7	7
72.5°	5	5	5	5	5	5	5	5	5	5	5
75°	4	3	4	3	3	3	3	3	3	3	3
77.5°	2	2	2	2	2	2	2	2	2	1	1
80°	2	1	1	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	0	0	0	0	1	0	0
85°	1	0	1	0	0	0	0	0	0	1	0
87.5°	1	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988
2.5°	2840	2844	2847	2854	2856	2864	2871	2878	2888	2892	2901
5°	2474	2485	2500	2509	2524	2534	2547	2555	2570	2578	2591
7.5°	2032	2048	2062	2075	2094	2107	2120	2128	2146	2155	2171
10°	1580	1593	1607	1619	1637	1648	1662	1671	1689	1697	1713
12.5°	1175	1187	1196	1208	1217	1225	1238	1247	1262	1270	1285
15°	858	864	874	882	890	895	906	910	920	925	936
17.5°	618	625	630	635	641	646	653	658	662	665	672
20°	440	445	449	452	457	459	465	468	473	474	478
22.5°	310	314	317	320	323	325	328	330	333	335	339
25°	218	220	222	224	226	228	231	233	235	236	238
27.5°	154	154	156	158	160	162	163	165	166	166	168
30°	110	111	113	114	115	116	118	119	119	120	121
32.5°	82	83	84	85	86	87	87	88	89	89	90
35°	63	64	65	66	66	67	68	69	69	69	70
37.5°	52	54	55	55	55	55	56	57	57	58	58
40°	46	49	50	49	50	50	50	50	51	52	52
42.5°	41	44	46	48	48	48	49	49	49	50	50
45°	37	40	43	46	48	50	51	52	51	51	51
47.5°	33	35	38	42	44	47	49	50	49	49	49
50°	28	30	32	34	36	38	39	40	41	40	41
52.5°	19	20	22	22	24	24	24	24	25	25	25
55°	13	12	12	11	11	11	11	11	11	11	12
57.5°	13	10	8	6	5	5	5	5	5	5	5
60°	15	10	8	5	3	3	2	2	2	2	2
62.5°	14	11	8	5	3	2	1	2	1	1	1
65°	13	10	8	5	3	2	1	1	1	1	1
67.5°	10	8	5	3	1	1	0	1	0	0	0
70°	6	5	3	2	1	0	0	1	0	0	0
72.5°	4	3	2	1	1	1	0	1	0	1	1
75°	3	2	1	1	1	1	0	1	0	0	0
77.5°	2	1	1	1	1	0	0	1	0	0	0
80°	1	1	1	0	0	0	1	1	0	0	0
82.5°	1	0	0	0	0	0	0	1	0	0	0
85°	1	0	0	0	0	0	0	1	0	0	0
87.5°	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988	2988
2.5°	2906	2908	2912	2913	2917	2920	2923	2928	2931	2932	2933
5°	2603	2615	2624	2631	2638	2646	2655	2659	2667	2672	2674
7.5°	2182	2198	2211	2221	2232	2241	2250	2255	2266	2272	2275
10°	1724	1739	1750	1762	1771	1780	1789	1795	1804	1805	1813
12.5°	1292	1304	1311	1322	1329	1335	1342	1349	1355	1353	1362
15°	940	950	957	963	968	973	980	981	989	991	995
17.5°	676	681	689	691	697	697	702	705	711	713	714
20°	480	486	489	491	494	496	499	501	505	505	507
22.5°	340	343	345	346	348	348	350	351	354	354	357
25°	239	241	242	242	244	246	246	247	249	249	251
27.5°	168	169	171	171	172	172	173	174	175	176	177
30°	121	122	123	123	124	124	125	125	126	126	127
32.5°	91	92	92	92	93	92	93	93	93	93	94
35°	71	72	72	72	73	72	73	72	72	72	72
37.5°	59	60	61	62	62	61	61	61	60	59	59
40°	53	54	56	56	57	56	55	55	54	52	52
42.5°	51	52	53	52	52	51	52	52	51	50	49
45°	51	50	50	50	49	48	49	49	50	49	49
47.5°	48	49	49	47	47	46	47	47	48	47	47
50°	41	42	42	41	42	41	41	41	41	40	41
52.5°	25	26	26	26	27	26	26	27	27	26	27
55°	12	12	12	11	12	11	12	12	12	12	12
57.5°	5	5	5	5	5	5	5	5	5	5	5
60°	2	3	3	2	3	2	3	3	3	2	3
62.5°	1	1	2	1	1	1	1	1	1	1	1
65°	1	1	1	1	1	1	1	1	1	1	1
67.5°	0	0	1	0	1	0	1	0	1	0	1
70°	0	0	1	0	1	0	0	0	0	0	1
72.5°	1	1	1	0	1	1	1	1	1	0	1
75°	0	1	1	0	1	0	1	0	1	0	1
77.5°	0	1	1	0	1	0	1	0	1	0	1
80°	0	1	1	0	1	0	0	0	1	0	1
82.5°	0	1	1	0	1	0	0	0	1	0	1
85°	0	0	1	0	1	0	0	0	1	0	1
87.5°	0	0	1	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2988	2988	2988	2988
2.5°	2932	2935	2936	2938
5°	2676	2678	2679	2682
7.5°	2277	2281	2280	2282
10°	1812	1821	1816	1822
12.5°	1363	1368	1364	1370
15°	994	999	997	997
17.5°	714	716	714	716
20°	507	508	508	510
22.5°	356	359	358	359
25°	250	253	253	253
27.5°	176	178	178	178
30°	127	127	127	128
32.5°	93	94	93	94
35°	72	72	72	72
37.5°	58	59	58	59
40°	51	51	51	51
42.5°	48	47	47	47
45°	49	50	49	50
47.5°	47	48	48	49
50°	41	41	41	42
52.5°	27	27	27	27
55°	12	13	12	13
57.5°	5	5	5	6
60°	2	2	2	3
62.5°	1	1	1	2
65°	1	1	1	2
67.5°	0	1	0	1
70°	0	1	0	1
72.5°	1	1	1	1
75°	1	1	1	1
77.5°	0	1	1	1
80°	0	1	1	1
82.5°	0	1	0	1
85°	0	0	0	1
87.5°	0	0	0	1
90°	0	0	0	0

(END OF REPORT)