

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: P21275

Luminaire Tested: **ML706827-495WW06-H750ICAT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P21275  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML706827-495WW06-H750ICAT  
Description: HALO 6 INCH LED DOWNLIGHT WITH 600 Lmn MODULE, DIFFUSE LENS AND SEMI-SPECULAR REFLECTOR WITH PLASTIC SPECULAR KICKER---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET----

Light Source: (1)SMT LED 2700K  
CL-L221-C14L2-B

Ballast/Driver: (1)ELECTRONIC DRIVER  
RLD011

**Summary**

Lumens per Lamp: 599 (1 lamp)  
Luminaire Lumens: 599.5 lumens  
Efficiency: 100.1%  
Efficacy: 42.8 lumens/watt  
Spacing Criteria (0/90/45): 1.29 / 1.32 / 1.33  
Luminous Opening: Circular (Dia: 0.48' x H: 0')  
CIE Type: Direct

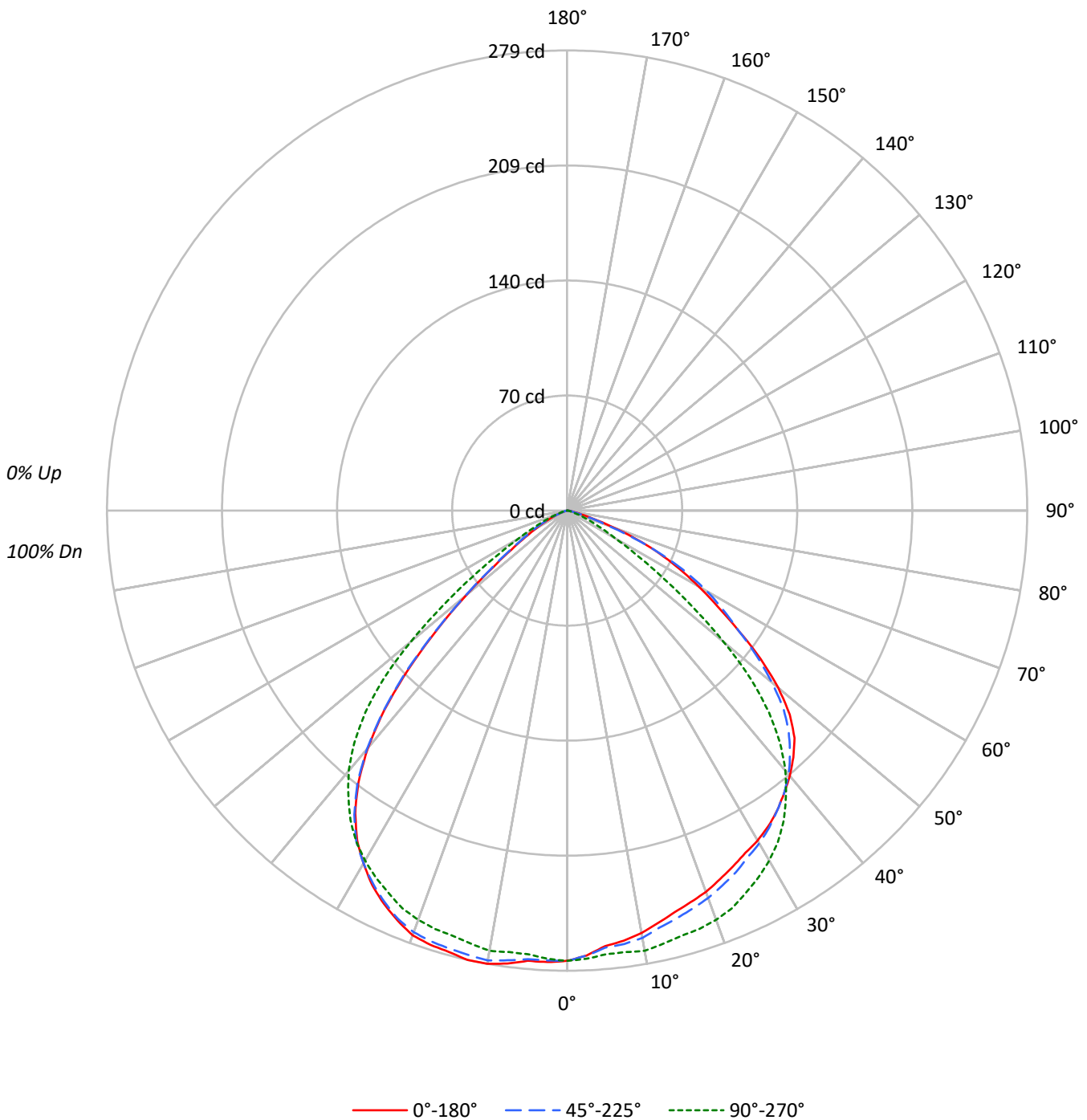
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 0.123  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: 6 HR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	111	108	104	101	109	105	102	100	101	99	97	98	96	94	94	92	91	89					89			
2	103	97	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	88	78	70	65	86	77	70	64	74	68	63	72	67	63	70	66	62	60					60			
5	82	71	63	57	80	69	62	57	67	61	56	66	60	55	64	59	55	53					53			
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49	47					47			
7	71	58	51	45	69	58	50	45	56	49	45	55	49	44	54	48	44	42					42			
8	66	54	46	40	65	53	46	40	52	45	40	51	44	40	49	44	40	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31					31			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	16296	16296	16296
5°	15878	16178	16418
10°	15759	16426	16911
15°	15573	16500	17118
20°	15626	16770	17405
25°	15675	16861	17322
30°	15922	16887	17024
35°	16177	16687	16323
40°	16363	16052	14649
45°	16461	14604	11480
50°	15508	11515	7429
55°	13217	7285	4267
60°	10983	4059	2626
65°	8757	2401	1554
70°	5236	1222	698
75°	2076	692	231
80°	1031	344	344
85°	1370	685	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	25.8	4.3	4.3
10°-20°	75.3	12.6	12.6
20°-30°	116.5	19.4	19.4
30°-40°	139.8	23.3	23.3
40°-50°	126.4	21.1	21.1
50°-60°	75.5	12.6	12.6
60°-70°	33.6	5.6	5.6
70°-80°	5.8	1.0	1.0
80°-90°	0.8	0.1	0.1
90°-100°	0.0	0.0	0.0
100°-110°	0.0	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°	217.5	36.3	36.3
0°-40°	357.3	59.6	59.6
0°-60°	559.2	93.3	93.4
0°-90°	599.5	100.0	100.1
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°	599.5	100.0	100.1

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	273	273	273	273	273	
5°	265	266	270	273	274	25
15°	252	256	267	275	277	71
25°	238	242	256	262	263	110
35°	222	222	229	225	224	139
45°	195	190	173	138	136	149
55°	127	127	70	43	41	114
65°	62	64	17	12	11	61
75°	9	7	3	1	1	12
85°	2	1	1	0	0	2
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°	273	273	273	273	273	273	273	273	273	273	273
2.5°	270	270	270	270	270	270	270	270	270	270	270
5°	265	265	265	265	265	266	266	266	266	266	267
7.5°	263	263	263	263	263	263	264	264	264	265	265
10°	260	260	260	260	261	261	261	262	262	263	264
12.5°	256	256	256	256	256	257	257	258	259	259	260
15°	252	252	252	252	253	253	254	254	255	256	257
17.5°	249	249	249	249	250	250	251	252	252	253	255
20°	246	246	246	246	247	247	248	249	250	250	252
22.5°	242	242	242	243	243	243	244	244	245	246	248
25°	238	238	238	238	239	239	239	240	241	242	243
27.5°	234	234	234	234	235	235	235	236	237	237	239
30°	231	231	231	231	231	231	232	232	233	233	234
32.5°	227	227	227	227	227	227	227	227	228	228	229
35°	222	222	222	221	221	222	222	222	222	222	223
37.5°	216	216	216	216	216	216	216	216	216	216	216
40°	210	210	210	210	210	210	209	209	209	209	209
42.5°	203	203	203	203	203	202	202	201	201	200	200
45°	195	195	195	194	194	193	193	192	191	190	190
47.5°	183	183	183	182	182	181	181	180	179	178	177
50°	167	167	167	167	167	166	165	164	163	162	161
52.5°	148	148	148	148	148	148	147	147	146	145	143
55°	127	127	128	129	129	129	129	129	128	127	126
57.5°	108	108	109	111	111	112	112	112	112	112	111
60°	92	92	93	95	96	96	97	97	97	98	98
62.5°	77	78	78	79	80	81	81	81	81	82	82
65°	62	62	63	63	63	63	63	63	63	64	64
67.5°	46	46	46	46	45	45	44	44	44	44	44
70°	30	30	29	29	28	28	27	27	26	26	26
72.5°	17	17	17	16	16	15	15	14	14	14	13
75°	9	9	9	9	8	8	8	8	7	7	7
77.5°	5	5	5	5	5	5	5	4	4	4	4
80°	3	3	3	3	3	3	3	3	3	3	3
82.5°	2	2	2	2	2	2	2	2	2	2	2
85°	2	2	2	2	2	2	2	2	1	1	1
87.5°	1	1	1	1	1	1	1	1	1	1	1
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°	273	273	273	273	273	273	273	273	273	273	273
2.5°	270	270	271	271	271	271	271	272	272	272	272
5°	267	267	268	268	268	269	269	270	270	271	271
7.5°	266	266	267	268	268	269	269	270	271	271	272
10°	264	265	266	267	268	269	270	271	271	272	273
12.5°	261	262	263	264	266	267	268	269	270	271	272
15°	258	259	261	262	263	265	266	267	269	270	271
17.5°	256	257	259	260	262	264	265	266	268	269	270
20°	253	255	256	258	260	261	263	264	266	267	268
22.5°	249	251	252	254	256	258	259	261	262	264	264
25°	244	246	248	250	251	253	255	256	257	258	259
27.5°	240	241	243	245	246	248	250	251	252	253	254
30°	235	237	238	240	242	243	244	245	246	247	247
32.5°	230	231	233	234	235	237	238	238	239	239	239
35°	224	225	225	226	227	228	229	229	229	228	228
37.5°	216	217	217	218	218	219	219	218	217	216	214
40°	209	209	209	209	209	208	207	206	204	201	198
42.5°	200	199	199	198	197	195	193	191	188	184	179
45°	189	188	187	185	182	179	176	173	169	163	155
47.5°	176	174	172	169	164	160	155	151	145	138	129
50°	160	158	154	150	143	136	130	124	118	111	102
52.5°	142	140	135	129	120	110	102	96	90	84	76
55°	125	123	118	110	98	86	76	70	65	60	55
57.5°	110	108	103	93	80	66	55	49	45	41	39
60°	97	95	90	80	65	50	40	34	31	29	27
62.5°	82	80	76	66	52	38	29	24	22	20	20
65°	64	63	59	52	40	28	21	17	15	14	14
67.5°	44	43	41	36	28	20	14	11	10	9	9
70°	26	26	25	22	17	12	9	7	6	6	5
72.5°	13	13	13	12	9	7	5	4	4	3	3
75°	7	6	6	6	5	4	3	3	2	2	2
77.5°	4	4	3	3	3	2	2	2	1	1	1
80°	3	2	2	2	2	2	1	1	1	1	1
82.5°	2	2	2	2	1	1	1	1	1	1	1
85°	1	1	1	1	1	1	1	1	0	0	0
87.5°	1	1	1	1	1	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°	273	273	273	273	273	273	273	273	273	273	273
2.5°	272	272	273	273	273	273	273	273	273	274	274
5°	271	272	272	272	273	273	273	273	274	274	274
7.5°	273	273	274	274	274	275	275	275	276	276	276
10°	274	274	275	276	276	277	277	278	278	278	278
12.5°	273	274	275	275	276	276	277	277	278	278	278
15°	272	273	273	274	275	275	276	276	276	277	277
17.5°	271	272	273	273	274	274	275	275	275	276	276
20°	269	270	271	271	272	272	273	273	273	273	273
22.5°	265	266	267	267	268	268	268	268	269	269	269
25°	260	261	261	261	262	262	262	262	263	263	263
27.5°	254	254	255	255	255	255	255	256	255	256	256
30°	247	247	247	247	247	247	248	248	248	248	247
32.5°	238	238	238	238	238	238	238	238	237	238	237
35°	227	226	226	225	225	225	225	225	224	224	224
37.5°	212	211	210	209	209	209	208	208	208	208	208
40°	195	193	191	190	190	189	189	189	189	189	188
42.5°	174	170	168	166	166	165	165	165	165	165	164
45°	149	143	140	139	138	138	137	137	137	137	137
47.5°	121	115	111	109	109	108	108	109	108	108	108
50°	93	87	84	83	82	81	81	81	81	81	80
52.5°	69	64	61	60	60	59	59	59	58	58	58
55°	50	47	45	44	44	43	43	43	42	42	42
57.5°	36	34	33	33	32	32	32	31	31	31	31
60°	26	26	25	25	24	24	24	24	23	23	23
62.5°	19	19	19	18	18	18	17	17	17	17	17
65°	14	13	13	13	12	12	12	12	12	11	11
67.5°	8	8	8	8	7	7	7	7	7	7	7
70°	5	5	4	4	4	4	4	4	4	4	4
72.5°	3	3	3	2	2	2	2	2	2	2	2
75°	2	2	2	1	1	1	1	1	1	1	1
77.5°	1	1	1	1	1	1	1	1	1	1	1
80°	1	1	1	1	1	1	1	1	1	1	1
82.5°	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	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):**

	165°	170°	175°	180°
0°	273	273	273	273
2.5°	274	274	274	274
5°	274	274	274	274
7.5°	276	276	276	277
10°	279	279	279	279
12.5°	278	278	278	279
15°	277	277	277	277
17.5°	276	276	276	276
20°	274	274	274	274
22.5°	269	269	269	269
25°	263	263	263	263
27.5°	256	256	256	256
30°	248	248	248	247
32.5°	237	237	237	237
35°	224	224	224	224
37.5°	208	208	208	208
40°	188	188	188	188
42.5°	164	164	164	164
45°	137	136	136	136
47.5°	108	107	107	107
50°	80	80	80	80
52.5°	58	57	57	57
55°	41	41	41	41
57.5°	30	30	30	30
60°	23	22	22	22
62.5°	16	16	16	16
65°	11	11	11	11
67.5°	7	7	7	7
70°	4	4	4	4
72.5°	2	2	2	2
75°	1	1	1	1
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)