

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P644121

Luminaire Tested: ML5615LSWW9FS1E - 592W WW - 900LM - 2700K

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P644121
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-116)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5615LSWW9FS1E - 592W WW - 900LM - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

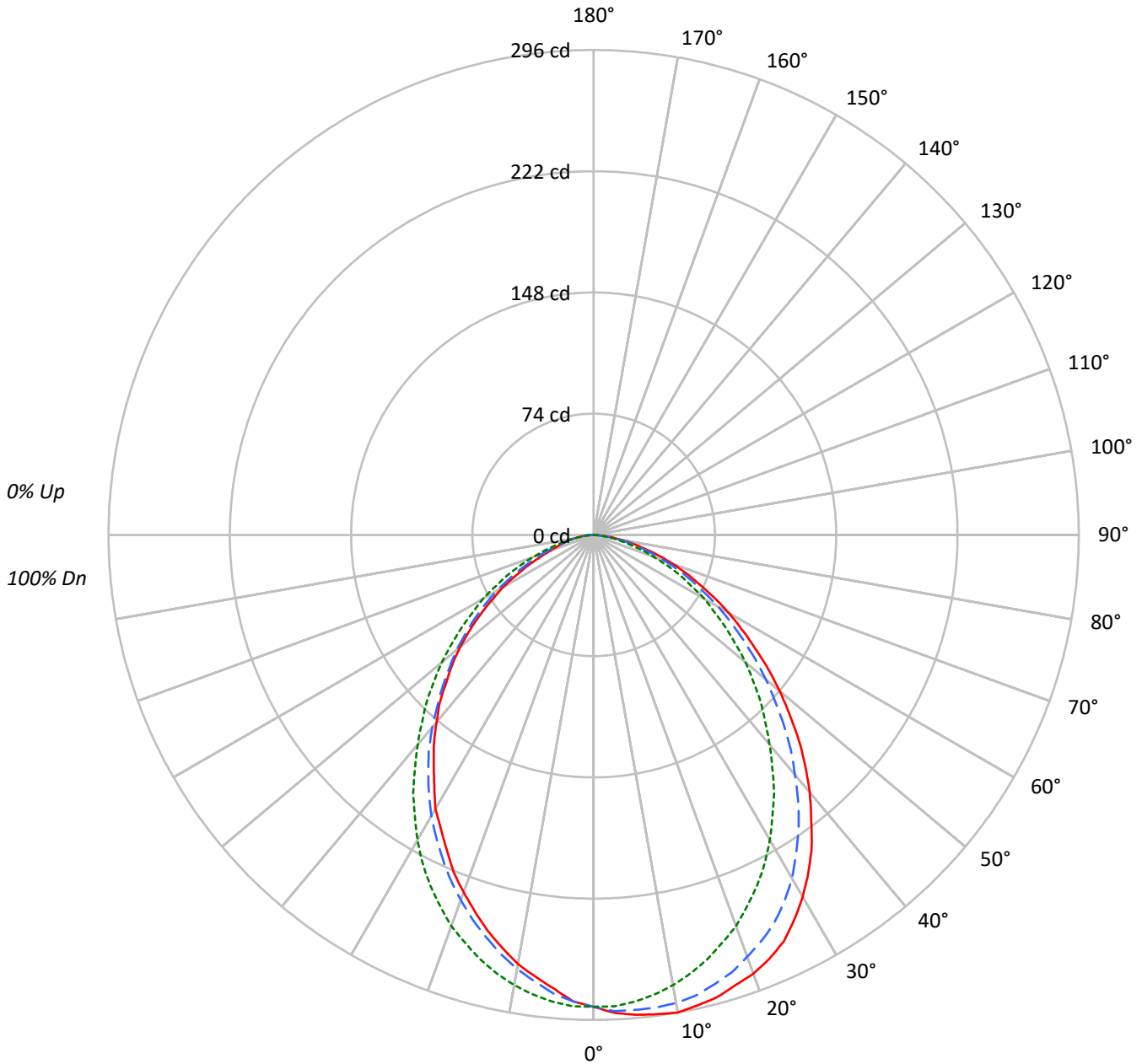
Lumens per Lamp: N/A
Luminaire Lumens: 628.3 lumens
Efficiency: N/A
Efficacy: 59.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.13 / 1.23
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

Input Watts (W): 10.5
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: 24 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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	82	99	92	86	81	88	84	80	85	81	78	82	79	76	74					74			
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64					64			
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55					55			
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49					49			
6	73	61	53	46	72	60	52	46	58	51	46	57	50	45	55	49	45	43					43			
7	68	56	47	41	67	55	47	41	53	46	41	52	45	41	51	45	40	39					39			
8	64	51	43	37	62	50	43	37	49	42	37	48	41	37	47	41	37	35					35			
9	60	47	39	34	58	46	39	34	45	38	34	44	38	33	43	37	33	32					32			
10	56	43	36	31	55	43	36	31	42	35	31	41	35	31	40	35	30	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	22735	22735	22735	22735	22735
5°	23297	23060	22663	22267	22029
10°	23727	23246	22364	21563	21322
15°	23864	23210	21902	20758	20431
20°	23942	23018	21338	19910	19490
25°	23866	22734	20556	18988	18466
30°	23244	22059	19598	18048	17593
35°	22358	21008	18503	16961	16383
40°	21125	19683	17209	15767	15354
45°	19760	18309	16076	14513	14178
50°	18176	16825	14860	13386	13018
55°	16516	15277	13488	12111	11561
60°	14999	13894	12315	10736	10104
65°	13262	12328	10834	9153	8219
70°	11771	10617	9002	7386	6463
75°	9760	8845	7015	5795	5795
80°	7728	6819	5455	5001	5001
85°	4529	4529	3623	4529	4529

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19760 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.1	4.3
10°-20°	75.8	12.1
20°-30°	110.0	17.5
30°-40°	122.8	19.5
40°-50°	113.8	18.1
50°-60°	89.5	14.2
60°-70°	57.3	9.1
70°-80°	26.3	4.2
80°-90°	5.7	0.9
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°	213.0	33.9
0°-40°	335.7	53.4
0°-60°	539.1	85.8
0°-90°	628.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	628.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	288	288	288	288	288	
5°	294	291	286	281	278	28
15°	292	284	268	254	250	82
25°	274	261	236	218	212	126
35°	232	218	192	176	170	144
45°	177	164	144	130	127	136
55°	120	111	98	88	84	108
65°	71	66	58	49	44	71
75°	32	29	23	19	19	35
85°	5	5	4	5	5	7
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	288	288	288	288	288	288	288	288	288	288	288
2.5°	292	292	292	292	292	292	291	291	291	291	291
5°	294	294	294	294	293	293	293	293	292	292	291
7.5°	295	295	295	294	294	294	293	293	293	292	291
10°	296	295	295	294	294	294	293	293	292	291	290
12.5°	294	294	294	294	293	293	292	291	290	289	288
15°	292	292	292	291	290	290	289	288	287	286	284
17.5°	288	289	288	288	287	287	286	285	283	282	280
20°	285	284	284	284	283	282	281	280	278	277	274
22.5°	280	280	279	278	277	277	276	274	273	271	268
25°	274	273	273	272	271	271	269	268	266	263	261
27.5°	265	265	265	264	263	262	261	259	258	254	252
30°	255	255	254	254	252	252	251	249	247	244	242
32.5°	244	244	244	242	241	240	239	238	235	232	230
35°	232	232	231	230	229	228	227	225	223	221	218
37.5°	218	219	218	217	216	215	214	213	210	208	205
40°	205	205	204	203	202	202	201	199	197	194	191
42.5°	191	191	190	189	189	188	186	185	183	181	178
45°	177	176	175	175	174	173	173	171	169	166	164
47.5°	162	162	161	161	160	159	159	157	154	152	150
50°	148	148	147	147	146	145	144	143	141	139	137
52.5°	134	134	134	132	131	131	131	129	128	126	124
55°	120	120	120	119	118	118	118	116	115	113	111
57.5°	107	107	107	106	106	105	104	103	102	101	99
60°	95	95	94	93	94	93	92	91	90	89	88
62.5°	83	83	83	82	81	81	81	80	78	77	76
65°	71	71	71	71	70	70	69	68	68	67	66
67.5°	61	61	60	60	59	59	59	58	57	57	56
70°	51	50	50	50	49	49	49	48	48	47	46
72.5°	41	41	41	41	40	40	39	39	38	38	37
75°	32	32	32	32	31	31	31	31	30	30	29
77.5°	24	24	24	24	24	24	23	23	23	22	22
80°	17	17	17	17	16	16	16	16	16	15	15
82.5°	11	10	10	10	10	10	10	10	10	10	9
85°	5	5	5	5	5	5	5	5	5	5	5
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



TEST NUMBER: P644121

CATALOG NUMBER: ML5615LSWW9FS1E - 592W WW - 900LM - 2700K

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	288	288	288	288	288	288	288	288	288	288	288
2.5°	290	290	290	290	289	289	289	288	288	288	288
5°	291	291	289	289	289	289	288	288	287	286	285
7.5°	290	290	289	288	287	287	286	285	284	283	282
10°	289	288	287	286	285	284	283	282	280	279	278
12.5°	287	285	284	282	282	281	279	278	276	274	273
15°	283	281	279	277	277	275	273	272	270	268	266
17.5°	278	276	274	272	271	269	267	265	263	261	259
20°	273	270	268	265	264	263	260	258	256	254	251
22.5°	266	264	260	258	257	255	253	250	247	245	243
25°	258	256	253	250	248	247	244	241	239	236	234
27.5°	249	246	244	240	239	237	234	231	229	226	223
30°	239	236	233	230	228	227	224	221	218	215	213
32.5°	227	224	221	219	216	214	212	209	206	203	201
35°	215	212	209	206	204	204	200	197	194	192	189
37.5°	202	199	196	193	192	190	187	184	182	179	177
40°	189	185	183	180	179	177	175	172	170	167	165
42.5°	175	173	170	168	166	165	162	159	157	155	154
45°	162	159	156	154	153	151	150	147	145	144	142
47.5°	148	146	144	141	140	139	137	136	134	132	130
50°	135	133	131	129	128	128	125	123	122	121	119
52.5°	122	120	118	116	116	115	113	112	111	109	107
55°	110	108	106	105	104	104	102	101	99	98	97
57.5°	98	96	95	94	93	93	91	90	89	87	87
60°	87	85	84	83	82	81	81	79	78	78	76
62.5°	75	74	73	72	71	71	70	69	68	67	66
65°	65	64	63	62	61	61	60	59	58	58	56
67.5°	55	54	53	52	52	51	50	50	49	48	47
70°	45	45	44	43	43	42	41	41	40	39	38
72.5°	37	36	35	35	34	34	33	33	32	31	30
75°	28	27	27	27	26	26	26	25	24	23	23
77.5°	21	21	20	19	19	19	18	18	18	17	17
80°	15	14	14	13	13	13	13	12	12	12	11
82.5°	9	9	9	8	8	8	8	8	7	7	7
85°	5	4	4	4	4	4	4	4	4	4	4
87.5°	1	1	1	1	1	1	1	1	1	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P644121

CATALOG NUMBER: ML5615LSWW9FS1E - 592W WW - 900LM - 2700K

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	288	288	288	288	288	288	288	288	288	288	288
2.5°	287	287	286	286	286	286	286	285	285	285	285
5°	285	284	283	283	283	282	282	281	281	280	280
7.5°	281	280	279	279	278	278	276	276	275	274	274
10°	276	275	274	273	273	271	271	270	269	268	268
12.5°	271	270	268	267	267	266	264	263	262	261	260
15°	264	263	261	260	259	258	257	256	254	253	253
17.5°	257	256	253	252	252	250	249	247	246	245	244
20°	249	247	245	244	243	241	240	239	237	236	235
22.5°	240	238	236	235	234	232	231	229	228	227	226
25°	231	229	227	226	224	223	221	219	218	217	216
27.5°	221	219	216	215	214	213	211	209	208	206	206
30°	210	208	206	205	204	202	201	199	198	196	196
32.5°	199	196	194	193	192	191	189	188	187	186	185
35°	187	185	183	182	181	179	178	177	176	174	174
37.5°	175	173	171	170	170	168	167	165	165	163	163
40°	163	161	159	159	158	156	155	154	153	152	152
42.5°	152	149	148	148	146	145	144	143	141	141	141
45°	140	138	137	136	135	134	133	131	130	129	129
47.5°	129	127	126	125	124	123	122	121	119	119	118
50°	118	116	115	114	113	112	111	110	109	108	107
52.5°	106	105	104	103	103	101	100	99	98	98	96
55°	96	95	94	93	92	91	90	89	88	87	86
57.5°	85	84	83	83	82	81	80	79	78	77	76
60°	75	74	73	73	72	71	70	70	68	67	66
62.5°	65	64	63	63	62	62	61	60	58	58	57
65°	56	55	54	53	53	52	51	50	49	49	48
67.5°	47	46	45	45	44	43	42	41	40	40	39
70°	38	37	36	36	35	34	34	33	32	31	31
72.5°	29	29	28	28	27	27	26	25	25	24	23
75°	22	22	21	21	20	20	19	19	19	18	19
77.5°	16	16	15	15	15	14	14	14	15	15	15
80°	11	11	11	11	10	10	11	11	11	11	11
82.5°	7	7	7	7	7	7	7	7	8	8	8
85°	4	4	4	4	4	4	4	5	5	5	5
87.5°	2	2	2	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P644121

CATALOG NUMBER: ML5615LSWW9FS1E - 592W WW - 900LM - 2700K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	288	288	288	288	288	288	288	288
2.5°	284	284	284	284	284	284	284	285
5°	279	279	279	279	279	279	279	278
7.5°	274	273	273	273	273	272	272	272
10°	267	267	266	266	266	266	265	266
12.5°	260	259	259	259	258	258	258	258
15°	252	251	251	251	250	250	250	250
17.5°	243	243	242	242	241	241	241	241
20°	234	234	234	233	233	233	232	232
22.5°	225	224	223	224	223	222	223	223
25°	215	214	213	213	213	213	212	212
27.5°	205	203	203	203	203	202	202	202
30°	195	194	194	193	192	192	192	193
32.5°	184	183	182	182	182	182	181	181
35°	173	173	172	172	172	171	171	170
37.5°	162	162	161	161	161	160	160	160
40°	151	150	150	151	150	150	149	149
42.5°	140	140	139	139	139	139	138	139
45°	128	128	128	128	128	128	127	127
47.5°	118	117	117	117	117	117	117	117
50°	107	106	106	106	106	106	106	106
52.5°	96	95	95	95	95	95	95	95
55°	86	85	85	84	85	84	84	84
57.5°	76	75	74	75	74	74	74	73
60°	66	65	65	65	64	63	63	64
62.5°	56	56	55	55	54	53	53	53
65°	47	46	46	45	45	44	44	44
67.5°	38	38	37	37	36	36	36	35
70°	30	30	29	29	29	28	28	28
72.5°	23	23	23	23	23	23	23	23
75°	19	19	19	19	19	19	19	19
77.5°	15	15	15	15	15	15	15	16
80°	11	11	12	11	12	11	11	11
82.5°	8	8	8	8	8	8	8	8
85°	5	5	5	5	5	5	5	5
87.5°	2	2	2	2	2	2	2	2
90°	0	0	0	0	0	0	0	0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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