

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: P644091

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

Issue Date: 2/17/2023

Test Information

Test Method: LM-79-2019
Report Number: P644091
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2212-866-130)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 2/17/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML5615LSWW9FS1E - 592H WW - 900LM - 2700K
Description: ML56 RR, WW OPTIC, 5" WW INSERT WITH HAZE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 633.8 lumens
Efficiency: N/A
Efficacy: 60.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.42' x H: 0')
CIE Type: Direct

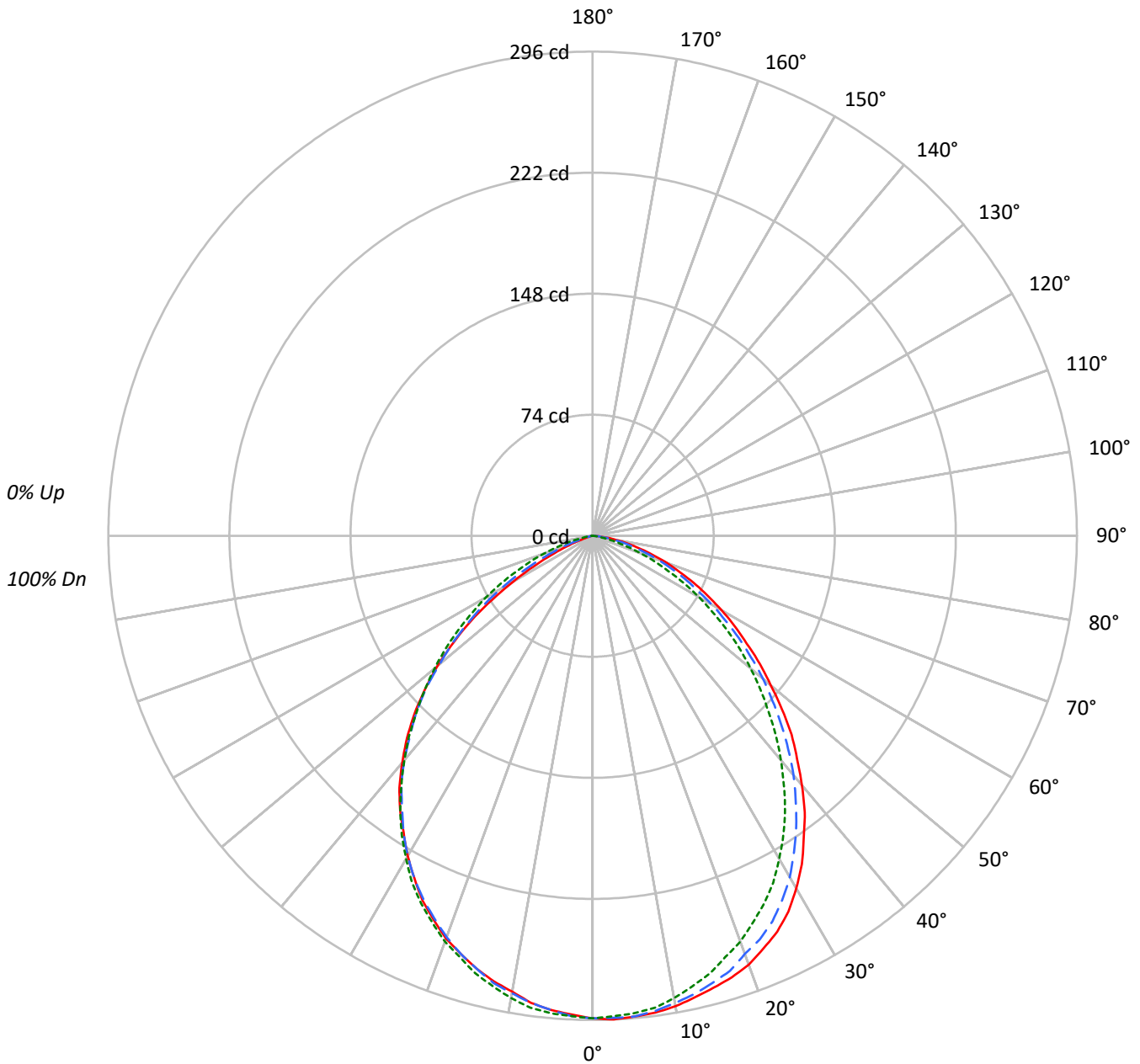
Input Watts (W): 10.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	111	107	103	100	108	105	101	98	100	98	95	96	94	92	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	81	87	83	79	84	81	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	67	62	72	66	61	70	65	60	68	63	59	57					57			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50					50			
6	74	62	54	48	73	61	54	48	60	53	47	58	52	47	56	51	47	45					45			
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	23288	23288	23288	23288	23288
5°	23377	23377	23218	23060	23060
10°	23406	23246	23006	22765	22685
15°	23374	23128	22638	22393	22393
20°	23438	22850	22178	21926	22010
25°	23256	22646	21601	21340	21427
30°	22697	21968	20783	20601	20601
35°	21683	20912	19756	19563	19756
40°	20507	19683	18446	18446	18652
45°	19202	18197	16969	16969	17192
50°	17439	16702	15474	14983	15228
55°	15827	15002	13763	12800	12524
60°	14367	13262	11841	10262	8841
65°	12702	11581	9526	7098	5230
70°	11079	9694	7155	3924	2077
75°	8845	7625	4575	1220	610
80°	6819	5001	1818	455	455
85°	3623	2717	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19202 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	27.8	4.4
10°-20°	78.5	12.4
20°-30°	115.8	18.3
30°-40°	131.1	20.7
40°-50°	121.1	19.1
50°-60°	90.5	14.3
60°-70°	50.0	7.9
70°-80°	16.8	2.7
80°-90°	2.1	0.3
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°	222.1	35.0
0°-40°	353.2	55.7
0°-60°	564.8	89.1
0°-90°	633.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	633.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	295	295	295	295	295	
5°	295	295	293	291	291	28
15°	286	283	277	274	274	81
25°	267	260	248	245	246	123
35°	225	217	205	203	205	141
45°	172	163	152	152	154	132
55°	115	109	100	93	91	104
65°	68	62	51	38	28	68
75°	29	25	15	4	2	32
85°	4	3	0	0	0	6
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°	295	295	295	295	295	295	295	295	295	295	295
2.5°	296	296	296	296	295	295	296	295	295	295	295
5°	295	295	295	295	295	295	295	295	295	295	295
7.5°	294	294	294	294	294	294	294	294	293	293	293
10°	292	292	292	292	292	292	292	291	291	291	290
12.5°	289	290	289	290	289	289	288	288	288	287	287
15°	286	286	286	286	286	285	285	284	284	284	283
17.5°	283	282	282	282	281	281	281	281	280	279	279
20°	279	278	278	278	277	277	276	276	274	274	272
22.5°	273	273	273	272	272	271	271	270	269	268	267
25°	267	267	266	266	265	265	265	263	262	261	260
27.5°	259	259	258	258	257	256	256	254	254	252	251
30°	249	249	249	247	247	247	246	245	243	242	241
32.5°	238	237	237	237	236	235	235	233	232	231	229
35°	225	225	225	225	224	223	223	221	220	218	217
37.5°	213	213	212	212	210	211	210	209	208	205	204
40°	199	199	199	198	197	197	196	195	193	192	191
42.5°	185	185	185	184	183	183	183	181	180	179	177
45°	172	171	171	170	170	169	168	167	166	165	163
47.5°	157	157	156	156	155	155	154	153	152	151	149
50°	142	143	143	142	142	141	140	140	139	138	136
52.5°	129	129	129	128	128	127	127	126	125	123	122
55°	115	116	115	115	115	114	114	113	112	110	109
57.5°	103	103	102	102	101	101	101	100	99	98	96
60°	91	90	90	90	89	89	89	87	86	85	84
62.5°	79	79	79	78	78	77	76	76	75	74	72
65°	68	68	67	67	67	66	66	65	64	63	62
67.5°	57	57	57	56	56	56	55	54	54	53	52
70°	48	47	47	47	46	46	46	45	44	43	42
72.5°	38	38	38	38	37	37	36	36	35	34	33
75°	29	29	29	29	28	28	28	27	27	26	25
77.5°	22	22	22	21	21	20	20	20	19	19	18
80°	15	15	14	14	14	14	14	13	12	12	11
82.5°	9	9	9	8	8	8	8	8	7	7	6
85°	4	4	4	4	4	4	3	3	3	3	3
87.5°	1	1	1	1	1	1	1	1	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P644091

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

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	295	295	295	295	295	295	295	295	295	295	295
2.5°	295	295	295	295	295	295	295	294	294	294	294
5°	294	294	294	294	294	293	294	293	293	293	293
7.5°	292	292	292	292	291	292	291	291	291	291	290
10°	290	289	289	289	289	288	288	287	287	287	286
12.5°	287	286	286	285	285	285	284	284	283	282	282
15°	282	282	281	280	280	279	279	278	278	277	276
17.5°	278	277	276	275	274	274	273	272	272	270	270
20°	271	270	269	268	268	268	266	266	265	264	263
22.5°	265	264	262	261	261	260	259	258	257	256	255
25°	258	257	255	254	253	252	251	250	249	248	247
27.5°	249	247	247	245	244	243	242	241	240	239	238
30°	239	238	236	234	233	233	231	230	230	228	227
32.5°	228	226	224	223	222	221	220	219	218	217	216
35°	216	213	212	210	210	209	208	206	206	205	203
37.5°	203	201	200	198	197	196	195	194	193	192	191
40°	189	187	186	185	184	183	182	181	180	179	178
42.5°	175	174	172	170	170	169	168	167	166	166	165
45°	161	160	158	157	156	156	154	154	153	152	152
47.5°	148	146	144	144	142	143	141	141	139	139	138
50°	134	133	131	130	130	129	128	128	127	126	125
52.5°	121	119	118	117	116	116	115	115	113	113	112
55°	108	107	105	104	104	104	102	101	101	100	99
57.5°	95	94	93	92	91	91	90	89	88	87	85
60°	83	82	81	80	79	79	78	77	76	75	74
62.5°	71	71	69	68	67	67	66	65	64	63	62
65°	61	60	58	57	57	57	55	54	53	51	50
67.5°	51	49	48	48	47	46	45	44	42	41	39
70°	41	40	39	38	37	36	35	34	32	31	30
72.5°	32	31	30	29	28	28	26	25	24	22	21
75°	24	23	22	21	20	19	19	17	16	15	13
77.5°	17	16	15	14	14	13	12	11	10	9	8
80°	11	10	9	9	8	8	7	6	5	4	4
82.5°	6	5	5	4	4	4	3	2	2	2	1
85°	2	2	2	1	1	1	1	1	1	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	295	295	295	295	295	295	295	295	295	295	295
2.5°	294	294	294	294	294	294	294	294	294	293	293
5°	292	292	292	292	292	292	291	291	291	291	291
7.5°	290	290	290	289	289	289	289	288	288	288	288
10°	286	286	286	285	285	285	285	285	284	284	284
12.5°	281	281	281	281	281	280	280	280	280	279	280
15°	276	276	275	275	275	274	274	274	274	274	274
17.5°	270	269	269	268	268	268	268	268	268	268	268
20°	263	262	262	262	262	261	261	260	261	261	261
22.5°	255	254	254	254	253	253	253	253	253	253	253
25°	247	246	245	245	245	244	244	245	245	245	245
27.5°	237	237	236	236	236	235	235	235	236	236	236
30°	226	226	226	226	225	225	226	225	226	225	226
32.5°	216	216	215	214	214	215	214	214	215	215	215
35°	203	203	203	203	203	203	203	203	203	204	205
37.5°	191	191	191	191	191	191	191	192	192	192	192
40°	178	178	178	178	178	178	178	178	179	179	180
42.5°	164	165	165	165	164	164	165	165	165	166	166
45°	151	151	151	151	152	151	151	151	152	152	152
47.5°	138	137	137	138	137	137	137	137	138	138	137
50°	125	124	124	124	123	123	124	122	122	122	123
52.5°	112	111	110	110	110	109	108	108	108	107	107
55°	98	97	96	96	96	95	95	93	93	92	92
57.5°	85	84	83	83	82	81	81	79	79	78	76
60°	72	71	70	70	70	68	67	65	65	63	62
62.5°	60	59	58	57	57	55	54	52	51	50	48
65°	49	47	46	45	45	43	42	40	38	37	35
67.5°	38	37	35	34	34	32	30	29	27	25	24
70°	28	27	25	24	23	22	20	19	17	16	14
72.5°	19	18	16	16	15	13	12	11	9	8	7
75°	12	11	10	9	8	7	6	5	4	3	3
77.5°	7	6	5	4	4	3	2	2	2	1	1
80°	3	2	2	1	1	1	1	1	1	1	1
82.5°	1	1	1	1	1	1	1	0	0	1	1
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



TEST NUMBER: P644091

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

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	295	295	295	295	295	295	295	295
2.5°	294	293	294	294	293	293	293	293
5°	291	291	291	291	291	291	291	291
7.5°	289	288	288	288	288	288	288	288
10°	284	284	284	284	284	284	284	283
12.5°	279	279	279	279	279	279	279	279
15°	274	274	274	274	274	274	274	274
17.5°	268	268	268	268	268	267	268	268
20°	261	261	261	261	261	261	261	262
22.5°	253	253	253	253	253	253	253	254
25°	245	245	245	245	245	245	245	246
27.5°	236	236	236	236	236	236	236	236
30°	226	226	227	226	226	226	227	226
32.5°	216	216	216	216	216	216	216	215
35°	205	204	205	205	205	205	205	205
37.5°	193	193	193	193	193	193	194	194
40°	181	180	180	181	181	181	180	181
42.5°	166	167	167	167	168	167	168	168
45°	152	153	153	153	153	153	154	154
47.5°	138	138	138	138	139	139	139	139
50°	123	123	123	123	124	123	124	124
52.5°	107	107	107	107	107	107	108	107
55°	91	91	91	91	90	90	90	91
57.5°	76	75	74	75	73	73	73	73
60°	60	59	59	58	57	56	57	56
62.5°	46	45	45	43	42	42	41	41
65°	34	32	31	31	30	29	28	28
67.5°	22	21	20	20	19	18	18	17
70°	13	12	11	12	10	9	9	9
72.5°	6	5	5	5	4	4	4	4
75°	3	2	2	2	2	2	2	2
77.5°	1	1	2	1	1	1	1	1
80°	1	1	1	1	1	1	1	1
82.5°	1	0	0	0	1	1	0	1
85°	0	0	0	0	0	0	0	0
87.5°	0	0	0	0	0	0	0	0
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
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Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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