

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: P885912

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-5000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885912  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-142)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-5000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 541.2 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

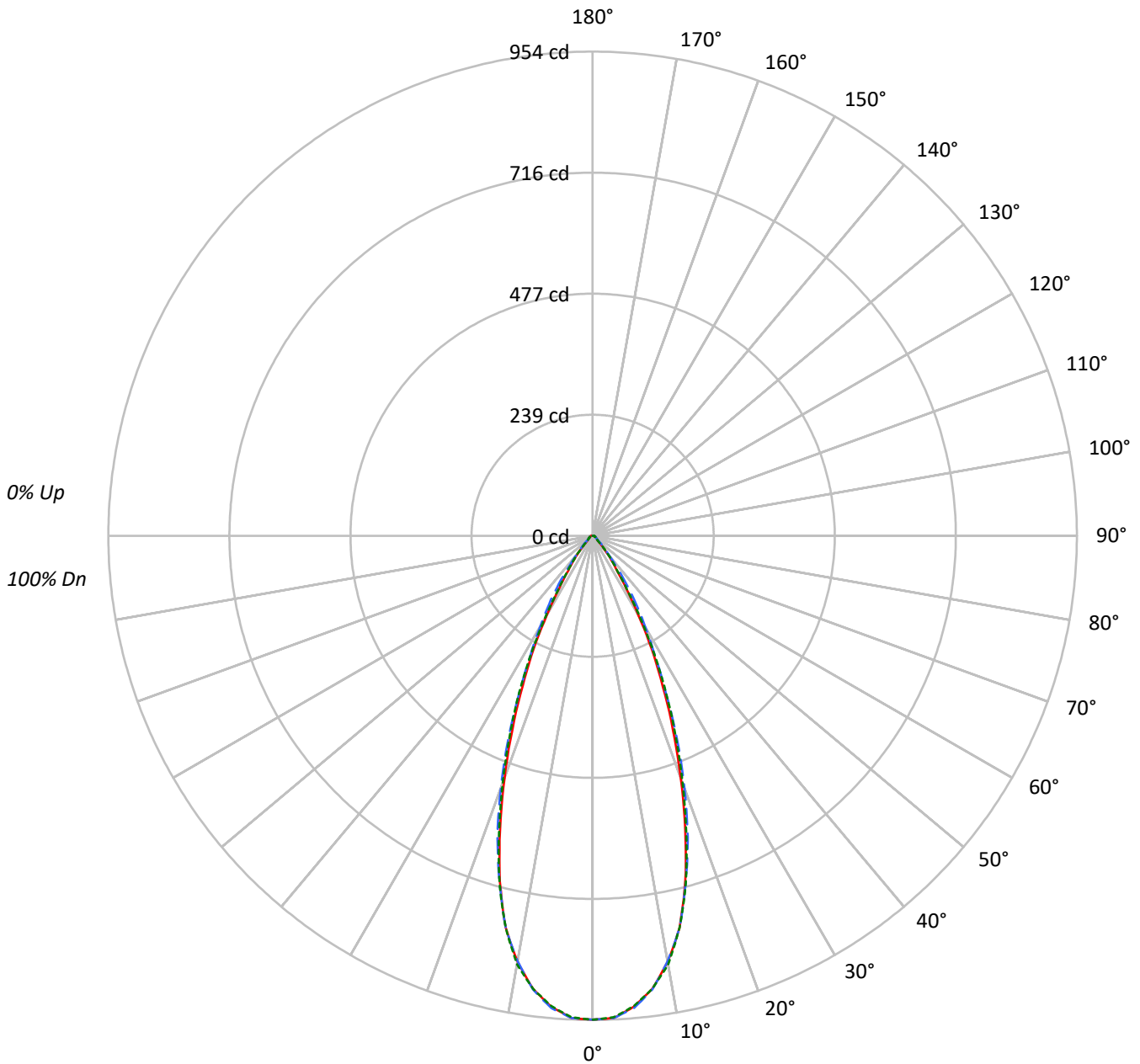
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	114	111	109	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94								
2	108	104	100	97	106	102	99	96	99	96	93	96	94	91	93	91	90	88								
3	103	97	93	89	102	96	92	88	93	90	87	91	88	86	89	86	84	83								
4	99	92	87	83	97	91	86	82	89	84	81	87	83	80	85	82	79	78								
5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74								
6	90	82	77	73	89	81	76	72	80	75	72	79	75	71	77	74	71	70								
7	87	78	73	69	85	77	72	68	76	72	68	75	71	68	74	70	67	66								
8	83	74	69	65	82	74	69	65	73	68	65	72	67	64	71	67	64	63								
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60								
10	76	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57								

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

	0°	45°	90°
0°	1477940	1477940	1477940
5°	1449355	1453401	1447333
10°	1341301	1339255	1349486
15°	1131952	1136124	1138210
20°	835633	872087	852788
25°	557714	584394	586617
30°	320912	369774	339526
35°	157244	218741	164623
40°	86804	102587	92065
45°	37046	56993	37046
50°	28213	31348	28213
55°	24592	24592	24592
60°	24180	24180	24180
65°	23840	23840	23840
70°	23566	23566	23566
75°	23356	23356	23356
80°	23208	23208	23208
85°	23120	23120	23120

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 56993 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.5	16.0
10°-20°	193.6	35.8
20°-30°	156.2	28.9
30°-40°	65.5	12.1
40°-50°	18.9	3.5
50°-60°	8.3	1.5
60°-70°	6.4	1.2
70°-80°	4.5	0.8
80°-90°	1.3	0.2
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°	436.3	80.6
0°-40°	501.8	92.7
0°-60°	529.0	97.7
0°-90°	541.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	541.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	932	932	934	933	930	86
15°	705	703	708	705	709	192
25°	326	336	342	343	343	150
35°	83	92	116	95	87	58
45°	17	21	26	22	17	16
55°	9	9	9	9	9	8
65°	6	6	6	6	6	6
75°	4	4	4	4	4	4
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	953.5	953.5	953.5	953.5	953.5
2.5°	950.9	950.9	950.9	952.2	949.6
5°	931.5	931.5	934.1	932.8	930.2
7.5°	900.3	900.3	901.6	901.6	900.3
10°	852.2	853.5	850.9	854.8	857.4
12.5°	791.2	789.9	791.2	792.5	791.2
15°	705.4	702.8	708.0	705.4	709.3
17.5°	606.7	615.8	623.6	618.4	613.2
20°	506.6	514.4	528.7	522.2	517.0
22.5°	413.1	423.5	435.2	432.6	426.1
25°	326.1	336.5	341.7	343.0	343.0
27.5°	252.0	261.1	265.0	270.2	262.4
30°	179.3	192.3	206.6	205.3	189.7
32.5°	122.1	135.1	159.8	144.2	127.3
35°	83.1	92.2	115.6	94.8	87.0
37.5°	61.1	66.3	76.6	67.6	63.7
40°	42.9	46.8	50.7	49.4	45.5
42.5°	28.6	32.5	36.4	33.8	28.6
45°	16.9	20.8	26.0	22.1	16.9
47.5°	13.0	14.3	19.5	14.3	13.0
50°	11.7	11.7	13.0	11.7	11.7
52.5°	10.4	10.4	10.4	10.4	10.4
55°	9.1	9.1	9.1	9.1	9.1
57.5°	7.8	7.8	7.8	7.8	7.8
60°	7.8	7.8	7.8	7.8	7.8
62.5°	6.5	6.5	6.5	6.5	6.5
65°	6.5	6.5	6.5	6.5	6.5
67.5°	5.2	6.5	6.5	6.5	6.5
70°	5.2	5.2	5.2	5.2	5.2
72.5°	5.2	5.2	5.2	5.2	5.2
75°	3.9	3.9	3.9	3.9	3.9
77.5°	3.9	3.9	3.9	3.9	3.9
80°	2.6	2.6	2.6	2.6	2.6
82.5°	2.6	2.6	1.3	2.6	2.6
85°	1.3	1.3	1.3	1.3	1.3
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	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



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Scaled Data Report







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

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