

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: P885902

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-5000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885902  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-144)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-5000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

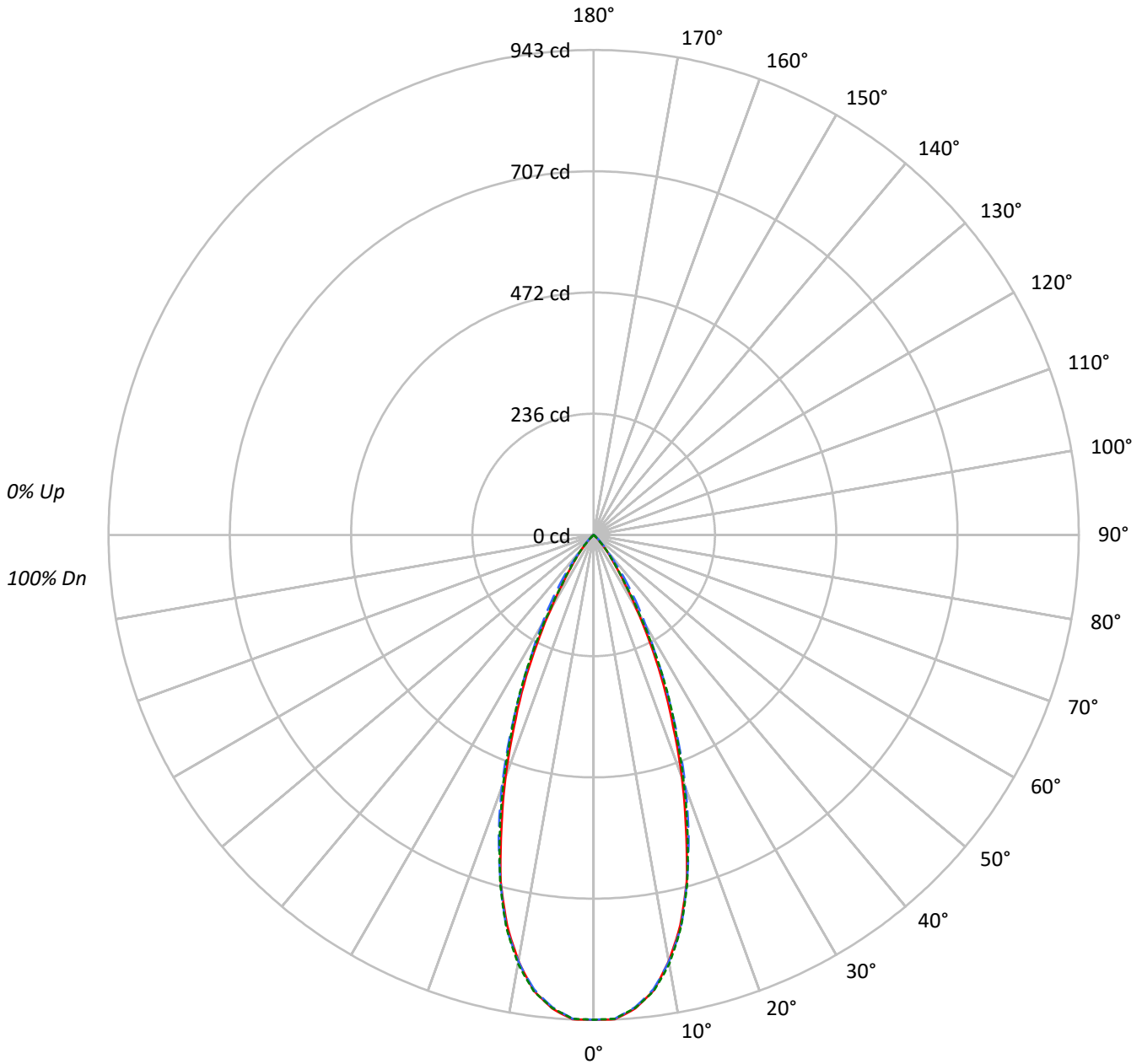
Lumens per Lamp: N/A  
Luminaire Lumens: 503.6 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 0.67 / 0.68 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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				
RW	70	50	30	10	70	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	112	110	108	112	110	108	106	106	104	103	102	101	100	98	98	97	95		
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90		
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	89	87	85		
4	100	94	89	85	99	93	88	85	91	87	84	89	86	83	87	84	82	81		
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	77		
6	92	85	79	76	91	84	79	75	82	78	75	81	77	74	80	77	74	73		
7	89	81	75	72	87	80	75	71	79	74	71	78	74	71	77	73	70	69		
8	85	77	72	68	84	76	71	68	75	71	68	74	70	67	73	70	67	66		
9	82	73	68	65	81	73	68	65	72	68	64	71	67	64	70	67	64	63		
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60		

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

	0°	45°	90°
0°	1461355	1461355	1461355
5°	1438619	1434574	1436597
10°	1324145	1326191	1332330
15°	1120558	1122644	1126817
20°	825736	860210	845035
25°	549333	576013	582683
30°	300150	358498	318943
35°	142673	199251	150053
40°	68391	84174	73652
45°	22797	37046	19948
50°	6270	12539	6270
55°	3513	3513	3513
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 37046 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.6	17.0
10°-20°	191.1	38.0
20°-30°	153.0	30.4
30°-40°	60.1	11.9
40°-50°	12.4	2.5
50°-60°	1.3	0.3
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.0	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°	429.8	85.3
0°-40°	489.9	97.3
0°-60°	503.6	100.0
0°-90°	503.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	503.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	925	922	922	923	923	86
15°	698	696	700	701	702	189
25°	321	324	337	342	341	146
35°	75	86	105	88	79	52
45°	10	13	17	13	9	10
55°	1	1	1	1	1	1
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	942.8	942.8	942.8	942.8	942.8
2.5°	942.8	940.2	941.5	942.8	941.5
5°	924.6	922.0	922.0	923.3	923.3
7.5°	893.4	892.1	890.8	892.1	894.7
10°	841.3	843.9	842.6	846.5	846.5
12.5°	777.6	776.3	782.8	782.8	782.8
15°	698.3	695.7	699.6	700.9	702.2
17.5°	595.6	604.7	613.8	609.9	606.0
20°	500.6	508.4	521.5	516.2	512.3
22.5°	404.4	414.8	426.5	423.9	418.7
25°	321.2	323.8	336.8	342.0	340.7
27.5°	238.0	253.6	258.8	266.6	256.2
30°	167.7	186.0	200.3	196.4	178.2
32.5°	113.1	127.4	150.8	135.2	115.7
35°	75.4	85.8	105.3	88.4	79.3
37.5°	52.0	57.2	67.6	59.8	53.3
40°	33.8	39.0	41.6	40.3	36.4
42.5°	19.5	24.7	27.3	24.7	20.8
45°	10.4	13.0	16.9	13.0	9.1
47.5°	5.2	6.5	10.4	6.5	5.2
50°	2.6	3.9	5.2	3.9	2.6
52.5°	1.3	2.6	2.6	2.6	1.3
55°	1.3	1.3	1.3	1.3	1.3
57.5°	0.0	0.0	1.3	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
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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