

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: P885899

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMB-400LM-3000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885899  
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-3000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

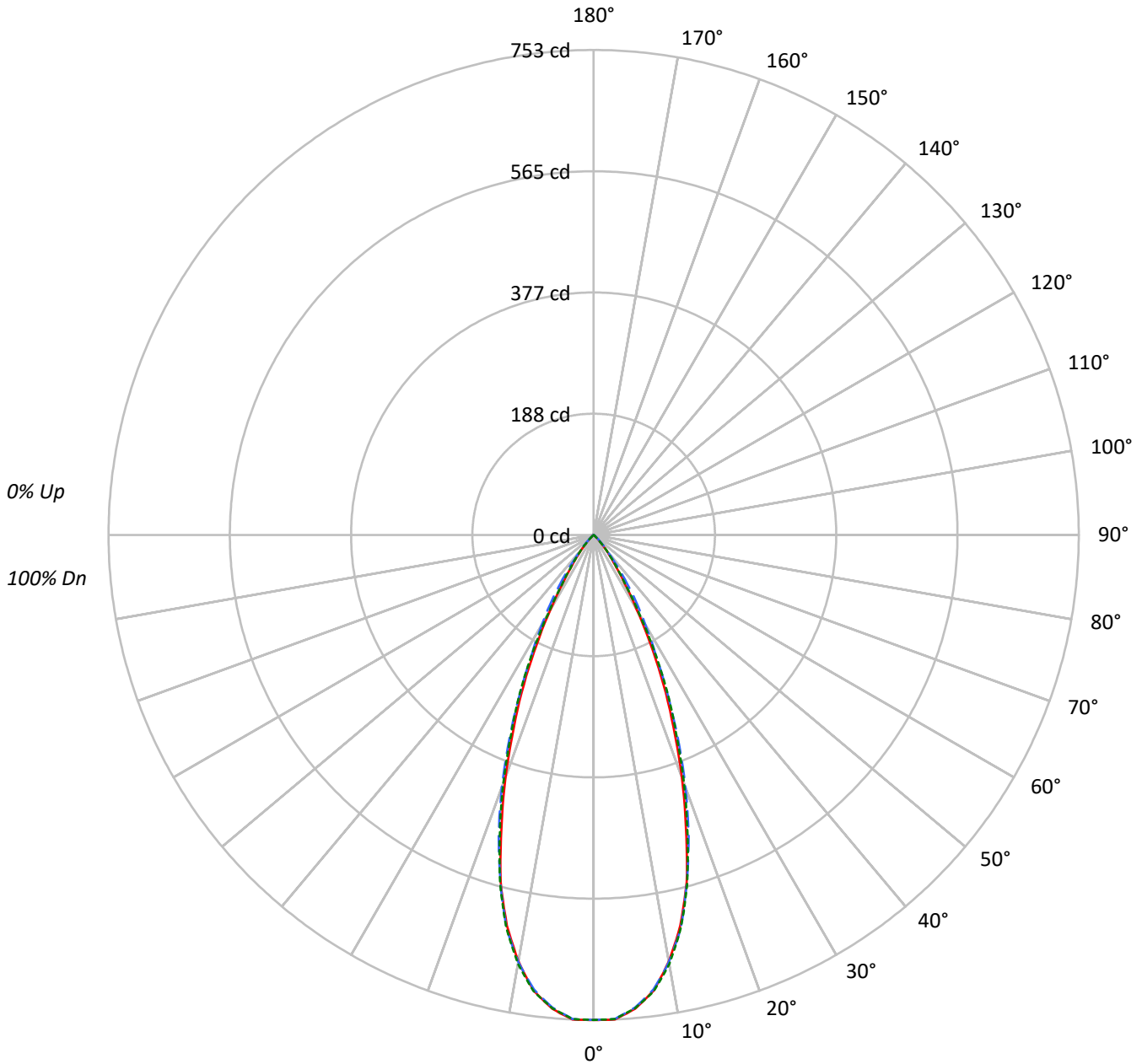
Lumens per Lamp: N/A  
Luminaire Lumens: 402.3 lumens  
Efficiency: N/A  
Efficacy: 67.1 lumens/watt  
Spacing Criteria (0/90/45): 0.67 / 0.68 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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°	1167472	1167472	1167472
5°	1149371	1146103	1147659
10°	1057994	1059568	1064447
15°	895259	896864	900234
20°	659797	687179	675137
25°	438851	460229	465531
30°	239834	286369	254689
35°	114101	159325	119967
40°	54632	67177	58881
45°	18194	29593	16002
50°	5064	10128	5064
55°	2702	2702	2702
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: 29593 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.4	17.0
10°-20°	152.7	38.0
20°-30°	122.2	30.4
30°-40°	48.0	11.9
40°-50°	9.9	2.5
50°-60°	1.0	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°	343.3	85.3
0°-40°	391.4	97.3
0°-60°	402.3	100.0
0°-90°	402.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	402.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	753	753	753	753	753	
5°	739	737	737	738	738	68
15°	558	556	559	560	561	151
25°	257	259	269	273	272	116
35°	60	69	84	71	63	42
45°	8	10	14	10	7	8
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°	753.2	753.2	753.2	753.2	753.2
2.5°	753.2	751.1	752.2	753.2	752.2
5°	738.7	736.6	736.6	737.6	737.6
7.5°	713.7	712.7	711.7	712.7	714.8
10°	672.2	674.3	673.2	676.3	676.3
12.5°	621.3	620.2	625.4	625.4	625.4
15°	557.9	555.8	558.9	560.0	561.0
17.5°	475.8	483.1	490.4	487.2	484.1
20°	400.0	406.2	416.6	412.4	409.3
22.5°	323.1	331.4	340.8	338.7	334.5
25°	256.6	258.7	269.1	273.2	272.2
27.5°	190.1	202.6	206.7	213.0	204.7
30°	134.0	148.6	160.0	156.9	142.3
32.5°	90.4	101.8	120.5	108.0	92.5
35°	60.3	68.6	84.2	70.6	63.4
37.5°	41.6	45.7	54.0	47.8	42.6
40°	27.0	31.2	33.2	32.2	29.1
42.5°	15.6	19.7	21.8	19.7	16.6
45°	8.3	10.4	13.5	10.4	7.3
47.5°	4.2	5.2	8.3	5.2	4.2
50°	2.1	3.1	4.2	3.1	2.1
52.5°	1.0	2.1	2.1	2.1	1.0
55°	1.0	1.0	1.0	1.0	1.0
57.5°	0.0	0.0	1.0	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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