

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: P885847

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMBB-400LM-5000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885847  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-141)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMBB-400LM-5000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 353.9 lumens  
Efficiency: N/A  
Efficacy: 59.0 lumens/watt  
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.55  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

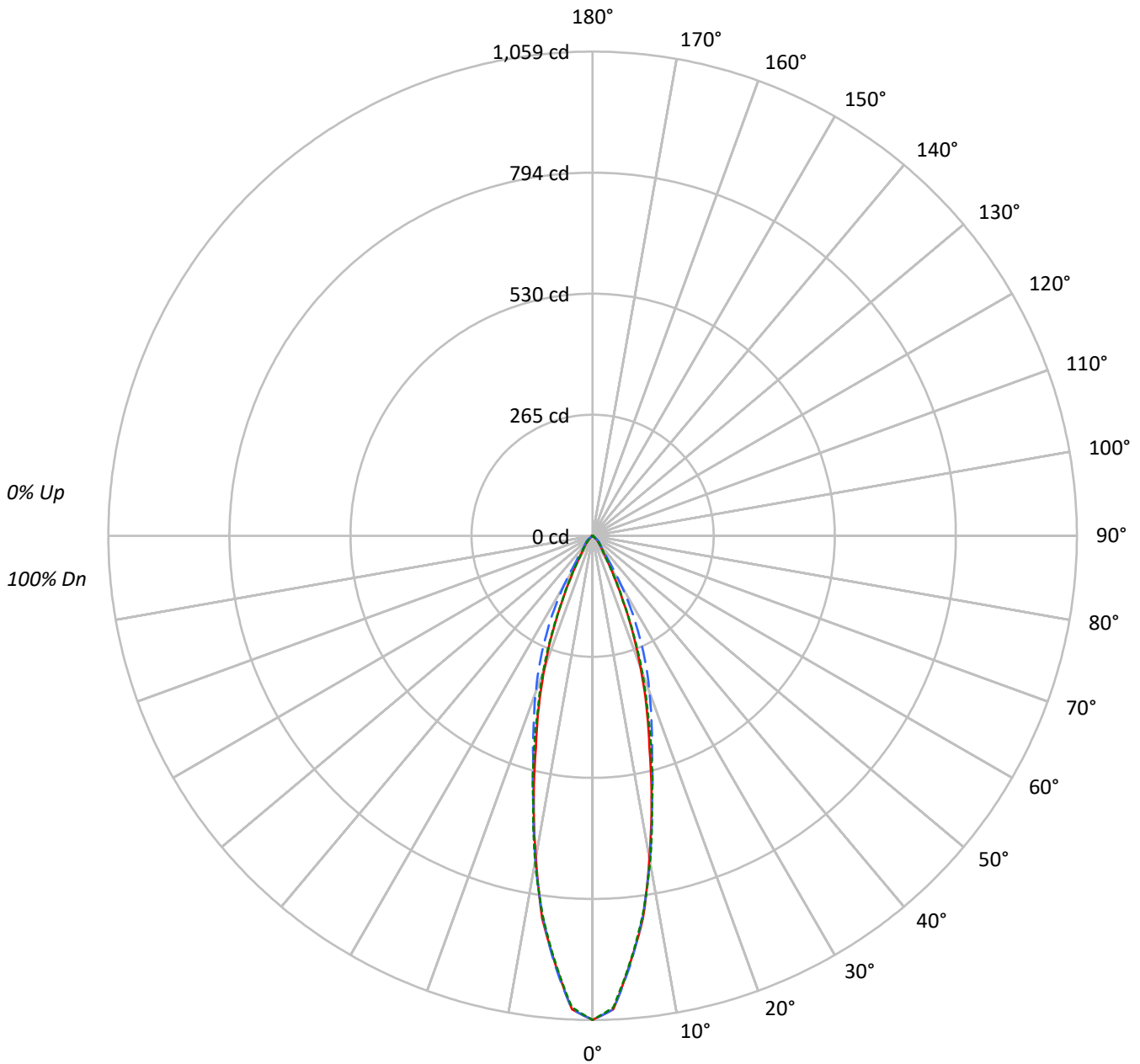
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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

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

	0°	45°	90°
0°	1641312	1641312	1641312
5°	1461336	1467404	1457291
10°	1125988	1134172	1138264
15°	768167	805717	797373
20°	504250	598601	521405
25°	266971	411487	271417
30°	123318	223547	120991
35°	66417	81176	66417
40°	44717	55239	47348
45°	28497	42745	28497
50°	6270	31348	6270
55°	3513	3513	3513
60°	4030	0	4030
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: 42745 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.0	23.5
10°-20°	138.6	39.2
20°-30°	89.7	25.3
30°-40°	29.1	8.2
40°-50°	11.4	3.2
50°-60°	1.9	0.5
60°-70°	0.2	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°	311.3	88.0
0°-40°	340.4	96.2
0°-60°	353.7	100.0
0°-90°	353.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	353.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1059	1059	1059	1059	1059	
5°	939	943	943	937	937	83
15°	479	492	502	500	497	134
25°	156	187	241	189	159	75
35°	35	44	43	43	35	24
45°	13	14	20	16	13	9
55°	1	1	1	1	1	2
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°	1058.9	1058.9	1058.9	1058.9	1058.9
2.5°	1036.7	1034.1	1036.7	1032.8	1032.8
5°	939.2	943.1	943.1	936.6	936.6
7.5°	844.2	841.6	839.0	833.8	837.7
10°	715.4	712.8	720.6	724.5	723.2
12.5°	594.5	594.5	599.7	611.4	601.0
15°	478.7	491.7	502.1	499.5	496.9
17.5°	391.5	404.6	428.0	415.0	399.3
20°	305.7	329.1	362.9	334.3	316.1
22.5°	230.2	257.6	303.1	261.5	234.1
25°	156.1	187.3	240.6	188.6	158.7
27.5°	102.8	123.6	183.4	127.5	105.4
30°	68.9	85.9	124.9	84.6	67.6
32.5°	45.5	62.4	72.8	61.1	46.8
35°	35.1	44.2	42.9	42.9	35.1
37.5°	27.3	32.5	32.5	31.2	28.6
40°	22.1	23.4	27.3	23.4	23.4
42.5°	16.9	19.5	23.4	19.5	18.2
45°	13.0	14.3	19.5	15.6	13.0
47.5°	3.9	9.1	16.9	9.1	3.9
50°	2.6	2.6	13.0	2.6	2.6
52.5°	2.6	1.3	6.5	1.3	2.6
55°	1.3	1.3	1.3	1.3	1.3
57.5°	1.3	1.3	1.3	1.3	1.3
60°	1.3	0.0	0.0	1.3	1.3
62.5°	1.3	0.0	0.0	0.0	1.3
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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