

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: P885840

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMB-400LM-3500K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885840  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-138)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMB-400LM-3500K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

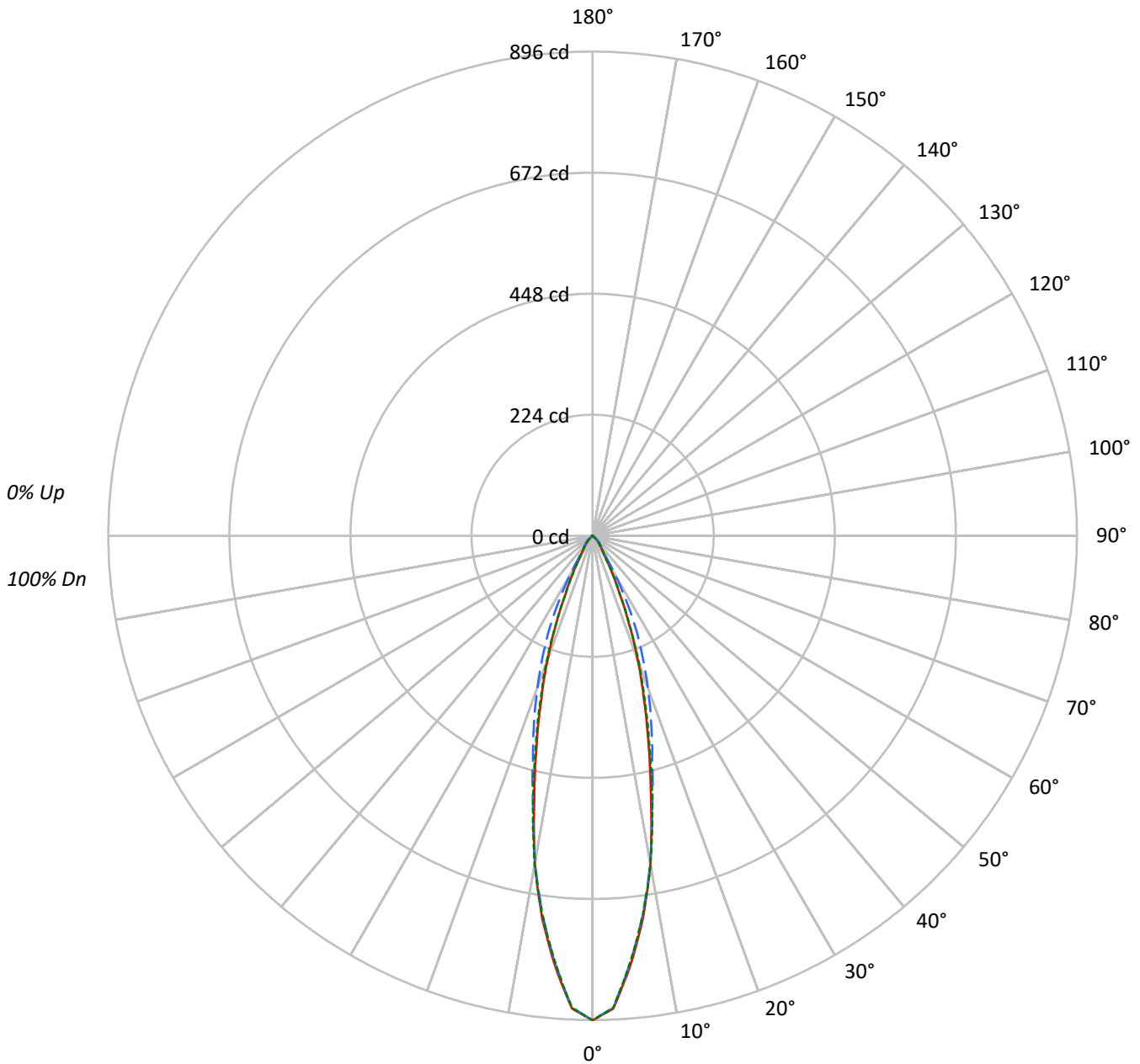
Lumens per Lamp: N/A  
Luminaire Lumens: 287.1 lumens  
Efficiency: N/A  
Efficacy: 47.8 lumens/watt  
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.54  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')

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	115	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96		
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91		
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87		
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	87	84	83		
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80		
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76		
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73		
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70		
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	75	71	69	68		
10	82	75	70	67	81	74	70	67	73	69	67	73	69	66	72	69	66	65		

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

	0°	45°	90°
0°	1389589	1389589	1389589
5°	1242571	1235725	1234014
10°	969539	966077	971271
15°	640755	683119	653111
20°	400992	491714	411878
25°	203178	321699	203178
30°	90564	147659	92533
35°	54118	60362	54118
40°	35612	44515	37838
45°	16879	33758	19290
50°	5305	21220	5305
55°	2973	2973	2973
60°	3410	0	3410
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: 33758 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.4	24.5
10°-20°	115.6	40.3
20°-30°	69.1	24.1
30°-40°	22.3	7.8
40°-50°	8.6	3.0
50°-60°	1.1	0.4
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°	255.0	88.8
0°-40°	277.3	96.6
0°-60°	287.1	100.0
0°-90°	287.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	287.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	896	896	896	896	896	
5°	799	801	794	795	793	71
15°	399	411	426	417	407	111
25°	119	139	188	144	119	58
35°	29	34	32	34	29	19
45°	8	11	15	11	9	6
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°	896.5	896.5	896.5	896.5	896.5
2.5°	875.6	874.5	873.4	874.5	874.5
5°	798.6	800.8	794.2	795.3	793.1
7.5°	713.9	711.7	707.3	710.6	709.5
10°	616.0	609.4	613.8	613.8	617.1
12.5°	498.3	508.2	510.4	509.3	509.3
15°	399.3	411.4	425.7	416.9	407.0
17.5°	314.6	334.4	359.7	339.9	322.3
20°	243.1	262.9	298.1	266.2	249.7
22.5°	176.0	200.2	240.9	202.4	178.2
25°	118.8	138.6	188.1	144.1	118.8
27.5°	80.3	94.6	132.0	95.7	79.2
30°	50.6	68.2	82.5	67.1	51.7
32.5°	36.3	48.4	46.2	48.4	37.4
35°	28.6	34.1	31.9	34.1	28.6
37.5°	22.0	25.3	26.4	25.3	23.1
40°	17.6	18.7	22.0	19.8	18.7
42.5°	13.2	15.4	18.7	15.4	14.3
45°	7.7	11.0	15.4	11.0	8.8
47.5°	2.2	5.5	13.2	5.5	2.2
50°	2.2	1.1	8.8	1.1	2.2
52.5°	1.1	1.1	3.3	1.1	1.1
55°	1.1	1.1	1.1	1.1	1.1
57.5°	1.1	0.0	0.0	1.1	1.1
60°	1.1	0.0	0.0	0.0	1.1
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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