

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: P885839

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMB-400LM-3000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885839  
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-3000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 271.3 lumens  
Efficiency: N/A  
Efficacy: 45.2 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

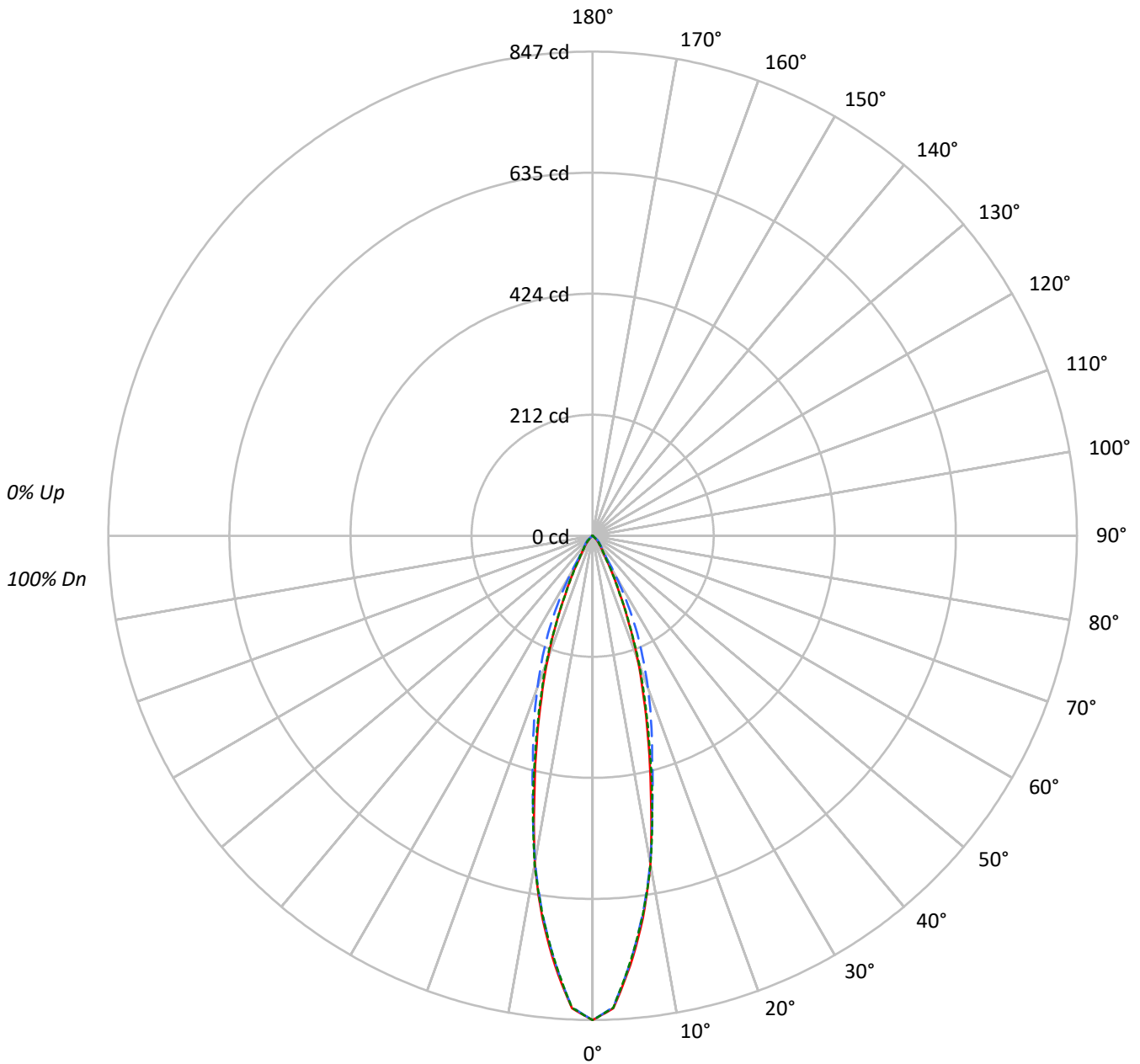
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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									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	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°	1313174	1313174	1313174
5°	1174266	1167731	1166175
10°	916183	912878	917915
15°	605451	645569	617166
20°	378888	464662	389280
25°	192061	304083	192061
30°	85553	139605	87521
35°	51090	56956	51090
40°	33588	42087	35814
45°	16002	32004	18194
50°	5064	20015	5064
55°	2702	2702	2702
60°	3100	0	3100
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: 32004 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	24.5
10°-20°	109.3	40.3
20°-30°	65.3	24.1
30°-40°	21.1	7.8
40°-50°	8.1	3.0
50°-60°	1.0	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°	241.0	88.8
0°-40°	262.1	96.6
0°-60°	271.2	100.0
0°-90°	271.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	271.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	847	847	847	847	847	
5°	755	757	750	752	750	67
15°	377	389	402	394	385	105
25°	112	131	178	136	112	55
35°	27	32	30	32	27	18
45°	7	10	15	10	8	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°	847.2	847.2	847.2	847.2	847.2
2.5°	827.4	826.4	825.4	826.4	826.4
5°	754.7	756.8	750.5	751.6	749.5
7.5°	674.6	672.6	668.4	671.5	670.5
10°	582.1	575.9	580.0	580.0	583.2
12.5°	470.9	480.3	482.3	481.3	481.3
15°	377.3	388.8	402.3	394.0	384.6
17.5°	297.3	316.0	339.9	321.2	304.6
20°	229.7	248.4	281.7	251.6	236.0
22.5°	166.3	189.2	227.7	191.3	168.4
25°	112.3	131.0	177.8	136.2	112.3
27.5°	75.9	89.4	124.7	90.4	74.8
30°	47.8	64.4	78.0	63.4	48.9
32.5°	34.3	45.7	43.7	45.7	35.3
35°	27.0	32.2	30.1	32.2	27.0
37.5°	20.8	23.9	24.9	23.9	21.8
40°	16.6	17.7	20.8	18.7	17.7
42.5°	12.5	14.6	17.7	14.6	13.5
45°	7.3	10.4	14.6	10.4	8.3
47.5°	2.1	5.2	12.5	5.2	2.1
50°	2.1	1.0	8.3	1.0	2.1
52.5°	1.0	1.0	3.1	1.0	1.0
55°	1.0	1.0	1.0	1.0	1.0
57.5°	1.0	0.0	0.0	1.0	1.0
60°	1.0	0.0	0.0	0.0	1.0
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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