

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: P885853

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMWB-400LM-2700K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885853  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-139)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDMWB-400LM-2700K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE BAFFLED TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

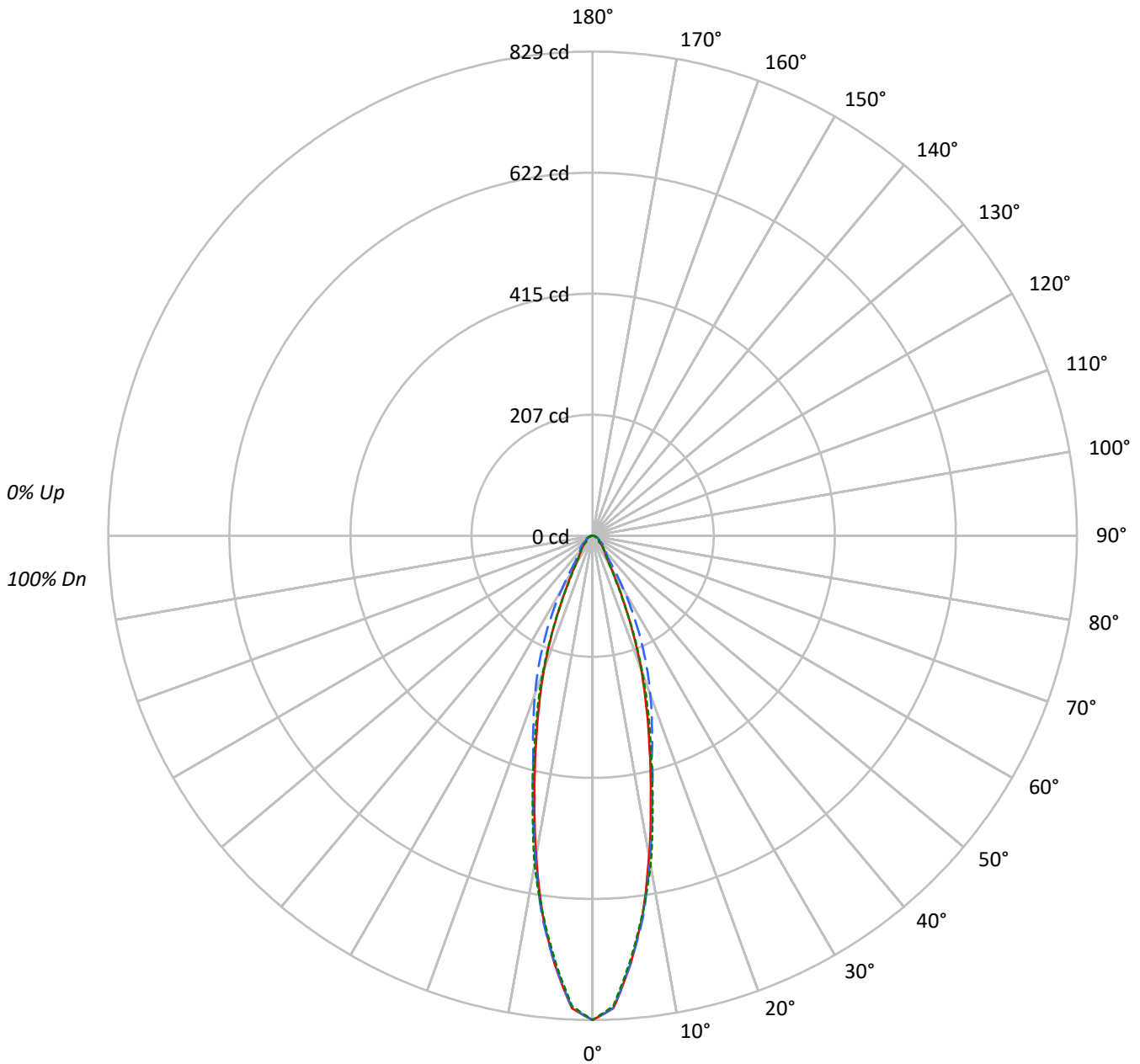
Lumens per Lamp: N/A  
Luminaire Lumens: 322.8 lumens  
Efficiency: N/A  
Efficacy: 53.8 lumens/watt  
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.56  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

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	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93																			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86																			
3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81																			
4	98	90	85	81	96	89	84	80	87	83	79	85	81	78	83	80	77	76																			
5	93	85	80	75	92	84	79	75	83	78	74	81	77	74	79	76	73	72																			
6	89	81	75	71	88	80	75	71	79	74	70	77	73	70	76	72	69	68																			
7	86	77	71	67	84	76	71	67	75	70	67	74	69	66	73	69	66	65																			
8	82	73	68	64	81	73	67	64	72	67	63	71	66	63	70	66	63	62																			
9	79	70	65	61	78	70	64	61	69	64	61	68	63	60	67	63	60	59																			
10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	64	61	58	56																			

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

	0°	45°	90°
0°	1285118	1285118	1285118
5°	1148437	1146881	1139101
10°	875261	887853	900444
15°	603365	629040	619412
20°	400827	475054	409074
25°	218912	331789	215492
30°	109178	187929	107388
35°	71904	85150	71904
40°	58679	68796	58679
45°	46033	61378	48225
50°	36171	53051	36171
55°	37833	35131	37833
60°	37200	37200	37200
65°	36677	36677	36677
70°	31724	31724	31724
75°	29944	29944	29944
80°	26779	26779	26779
85°	17784	17784	17784

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 61378 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.9	20.1
10°-20°	108.7	33.7
20°-30°	72.4	22.4
30°-40°	29.5	9.1
40°-50°	18.6	5.8
50°-60°	12.5	3.9
60°-70°	9.7	3.0
70°-80°	5.3	1.6
80°-90°	1.2	0.4
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°	246.0	76.2
0°-40°	275.5	85.4
0°-60°	306.6	95.0
0°-90°	322.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	322.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	829	829	829	829	829	
5°	738	736	737	735	732	65
15°	376	385	392	393	386	105
25°	128	150	194	153	126	61
35°	38	45	45	44	38	25
45°	21	24	28	25	22	16
55°	14	14	13	14	14	12
65°	10	10	10	10	10	10
75°	5	5	5	5	5	5
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	829.1	829.1	829.1	829.1	829.1
2.5°	810.1	811.1	809.1	808.1	806.1
5°	738.1	736.1	737.1	735.1	732.1
7.5°	655.1	653.1	659.1	655.1	653.1
10°	556.1	558.1	564.1	563.1	572.1
12.5°	460.0	466.0	471.0	472.0	474.0
15°	376.0	385.0	392.0	393.0	386.0
17.5°	305.0	321.0	337.0	326.0	315.0
20°	243.0	261.0	288.0	265.0	248.0
22.5°	182.0	203.0	241.0	209.0	185.0
25°	128.0	150.0	194.0	153.0	126.0
27.5°	88.0	103.0	148.0	106.0	85.0
30°	61.0	76.0	105.0	76.0	60.0
32.5°	45.0	59.0	68.0	57.0	46.0
35°	38.0	45.0	45.0	44.0	38.0
37.5°	33.0	36.0	38.0	36.0	33.0
40°	29.0	31.0	34.0	31.0	29.0
42.5°	26.0	28.0	31.0	28.0	26.0
45°	21.0	24.0	28.0	25.0	22.0
47.5°	15.0	19.0	26.0	20.0	15.0
50°	15.0	15.0	22.0	15.0	15.0
52.5°	14.0	14.0	17.0	14.0	14.0
55°	14.0	14.0	13.0	14.0	14.0
57.5°	13.0	13.0	13.0	13.0	13.0
60°	12.0	12.0	12.0	12.0	12.0
62.5°	11.0	11.0	11.0	11.0	11.0
65°	10.0	10.0	10.0	10.0	10.0
67.5°	8.0	9.0	8.0	9.0	9.0
70°	7.0	7.0	7.0	7.0	7.0
72.5°	6.0	6.0	6.0	6.0	6.0
75°	5.0	5.0	5.0	5.0	5.0
77.5°	4.0	4.0	4.0	4.0	4.0
80°	3.0	3.0	3.0	3.0	3.0
82.5°	2.0	2.0	2.0	2.0	2.0
85°	1.0	1.0	1.0	1.0	1.0
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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