

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: P885907

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-5000K

Issue Date: 6/19/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P885907  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-147)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 6/19/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMBB-400LM-5000K  
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D 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: 513.4 lumens  
Efficiency: N/A  
Efficacy: 85.6 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.68  
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')  
CIE Type: Direct

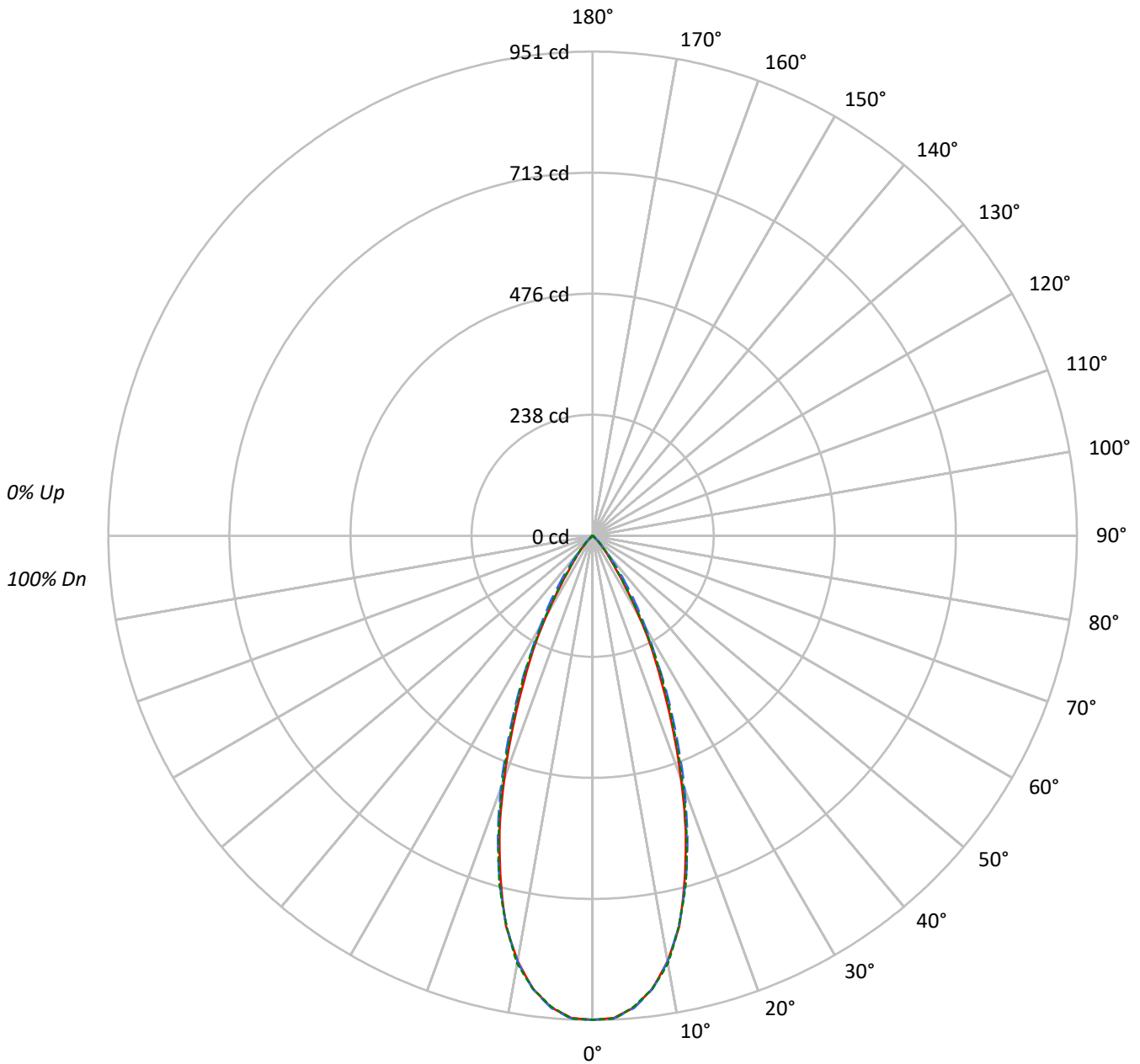
Input Watts (W): 6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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					10					0
RW	70	50	30	10	70	50	30	10	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	109	107	112	110	108	106	106	104	103	102	101	99	98	97	97	95								
2	109	105	101	98	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	88	86	85								
4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80								
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76								
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72								
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69								
8	85	77	71	68	84	76	71	68	75	70	67	74	70	67	73	69	67	66								
9	81	73	68	64	80	73	68	64	72	67	64	71	67	64	70	66	64	63								
10	78	70	65	61	77	69	65	61	69	64	61	68	64	61	67	64	61	60								

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

	0°	45°	90°
0°	1473445	1473445	1473445
5°	1446710	1448733	1444532
10°	1334376	1336422	1342560
15°	1120558	1130989	1135161
20°	836458	868623	851468
25°	553780	596023	580460
30°	325744	367805	337557
35°	147593	209090	159893
40°	73652	89434	78913
45°	25647	42745	25647
50°	9404	15674	9404
55°	3513	3513	3513
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: 42745 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.2	16.8
10°-20°	192.7	37.5
20°-30°	156.0	30.4
30°-40°	63.4	12.3
40°-50°	13.6	2.7
50°-60°	1.5	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°	434.9	84.7
0°-40°	498.3	97.1
0°-60°	513.4	100.0
0°-90°	513.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	513.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	951	951	951	951	951	
5°	930	930	931	928	928	86
15°	698	704	705	702	707	191
25°	324	334	348	339	339	150
35°	78	91	110	95	84	55
45°	12	14	20	16	12	11
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°	950.6	950.6	950.6	950.6	950.6
2.5°	948.0	948.0	949.3	948.0	949.3
5°	929.8	929.8	931.1	928.4	928.4
7.5°	897.2	897.2	898.5	898.5	897.2
10°	847.8	850.4	849.1	851.7	853.0
12.5°	785.4	784.1	782.8	785.4	782.8
15°	698.3	703.5	704.8	702.2	707.4
17.5°	607.3	611.2	619.0	619.0	613.8
20°	507.1	520.1	526.6	521.4	516.2
22.5°	410.9	421.3	433.0	429.1	421.3
25°	323.8	334.2	348.5	339.4	339.4
27.5°	252.3	261.4	266.6	269.2	264.0
30°	182.0	195.1	205.5	201.6	188.6
32.5°	120.9	135.2	154.7	143.0	127.4
35°	78.0	91.0	110.5	94.9	84.5
37.5°	53.3	59.8	74.1	62.4	57.2
40°	36.4	41.6	44.2	41.6	39.0
42.5°	22.1	26.0	28.6	27.3	23.4
45°	11.7	14.3	19.5	15.6	11.7
47.5°	5.2	7.8	11.7	7.8	5.2
50°	3.9	3.9	6.5	3.9	3.9
52.5°	2.6	2.6	2.6	2.6	2.6
55°	1.3	1.3	1.3	1.3	1.3
57.5°	0.0	0.0	1.3	1.3	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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