

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: P885921

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDSL-400LM-4000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885921
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-143)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDSL-400LM-4000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

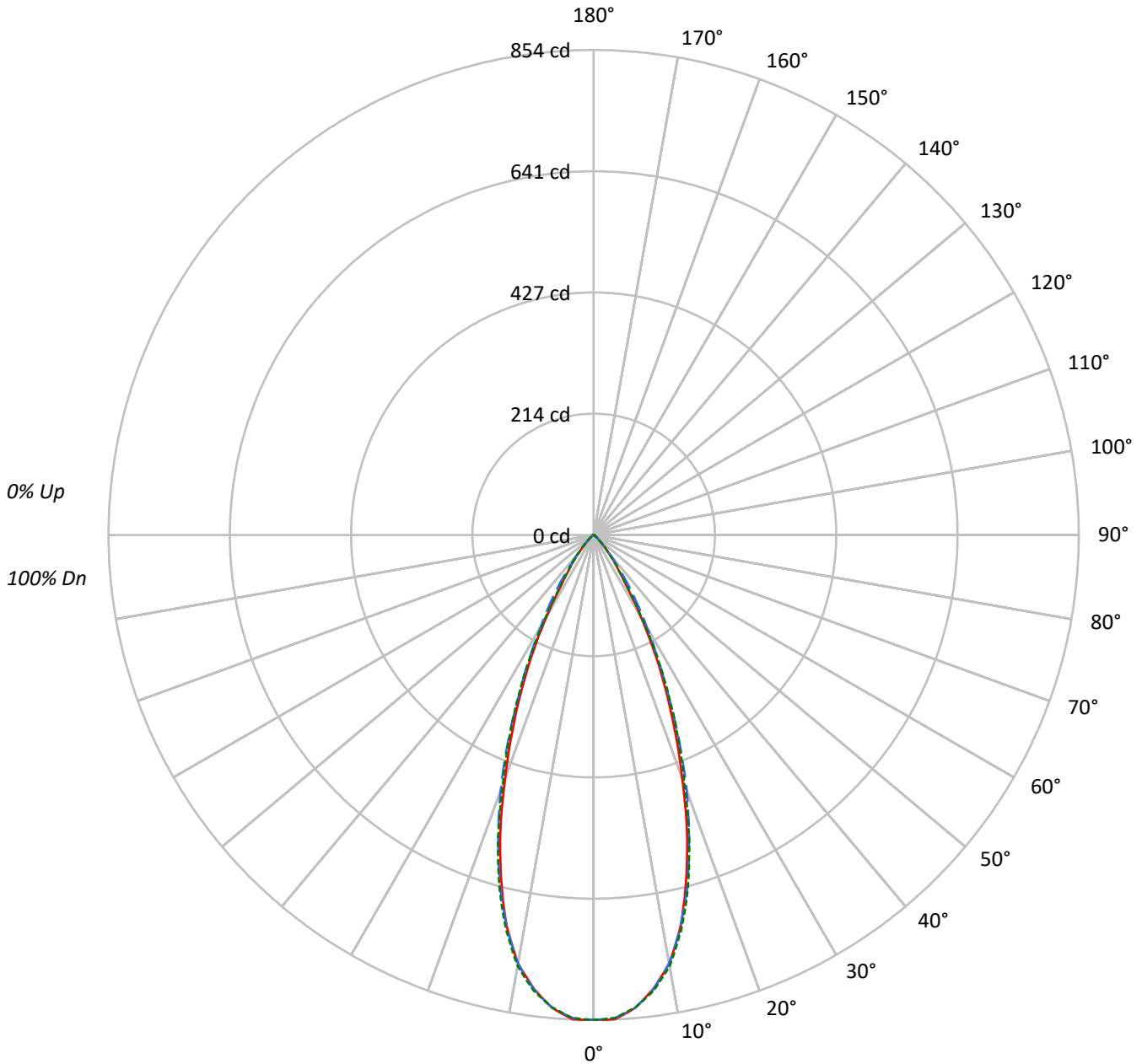
Lumens per Lamp: N/A
Luminaire Lumens: 474.0 lumens
Efficiency: N/A
Efficacy: 79.0 lumens/watt
Spacing Criteria (0/90/45): 0.68 / 0.69 / 0.68
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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	109	107	106	105	104	102	102	100	99	98	97	96	95								
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89								
3	104	99	94	91	102	97	93	90	95	91	88	92	89	87	90	88	86	84								
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80								
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75								
6	92	84	78	74	90	83	78	74	81	77	74	80	76	73	79	75	73	71								
7	88	79	74	70	86	79	74	70	78	73	70	76	72	69	75	72	69	68								
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65								
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61								
10	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	63	60	59								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1323714	1323714	1323714
5°	1301386	1301386	1299674
10°	1205943	1205943	1213341
15°	1009995	1023153	1030535
20°	750684	789282	771798
25°	510169	532231	536165
30°	293170	332904	307846
35°	148350	192628	152702
40°	80531	87613	80531
45°	33319	43622	35950
50°	19773	19773	19773
55°	12701	9458	12701
60°	7130	3720	7130
65°	4401	4401	8436
70°	5438	5438	5438
75°	7187	0	7187
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 43622 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.6	16.4
10°-20°	174.1	36.7
20°-30°	142.0	30.0
30°-40°	59.1	12.5
40°-50°	15.4	3.2
50°-60°	3.8	0.8
60°-70°	1.5	0.3
70°-80°	0.5	0.1
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°	393.7	83.1
0°-40°	452.8	95.5
0°-60°	472.0	99.6
0°-90°	474.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	854	854	854	854	854	
5°	836	836	836	838	835	78
15°	629	630	638	640	642	172
25°	298	306	311	315	314	136
35°	78	85	102	87	81	53
45°	15	18	20	18	16	14
55°	5	4	4	4	5	4
65°	1	1	1	1	2	2
75°	1	0	0	0	1	1
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°	854.0	854.0	854.0	854.0	854.0
2.5°	854.0	854.0	851.6	852.8	851.6
5°	836.4	836.4	836.4	837.6	835.3
7.5°	806.0	808.3	807.2	807.2	809.5
10°	766.2	766.2	766.2	767.4	770.9
12.5°	706.6	707.7	706.6	710.1	712.4
15°	629.4	630.5	637.6	639.9	642.2
17.5°	546.3	549.8	559.2	560.3	559.2
20°	455.1	464.4	478.5	474.9	467.9
22.5°	373.2	379.0	394.2	388.4	389.6
25°	298.3	306.5	311.2	314.7	313.5
27.5°	229.3	239.8	243.3	246.8	242.2
30°	163.8	176.6	186.0	184.8	172.0
32.5°	110.0	125.2	141.5	128.7	117.0
35°	78.4	85.4	101.8	86.6	80.7
37.5°	57.3	59.7	66.7	59.7	57.3
40°	39.8	42.1	43.3	42.1	39.8
42.5°	25.7	28.1	29.2	28.1	25.7
45°	15.2	17.5	19.9	17.5	16.4
47.5°	10.5	9.4	12.9	10.5	11.7
50°	8.2	7.0	8.2	8.2	8.2
52.5°	5.8	5.8	4.7	5.8	5.8
55°	4.7	3.5	3.5	3.5	4.7
57.5°	3.5	2.3	2.3	3.5	3.5
60°	2.3	2.3	1.2	2.3	2.3
62.5°	2.3	1.2	1.2	2.3	2.3
65°	1.2	1.2	1.2	1.2	2.3
67.5°	1.2	1.2	1.2	1.2	1.2
70°	1.2	1.2	1.2	1.2	1.2
72.5°	1.2	1.2	0.0	1.2	1.2
75°	1.2	0.0	0.0	0.0	1.2
77.5°	0.0	0.0	0.0	0.0	1.2
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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