

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: P885862

Luminaire Tested: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSL-400LM-5000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885862
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-137)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D25NFL-TL1SDSL-400LM-5000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

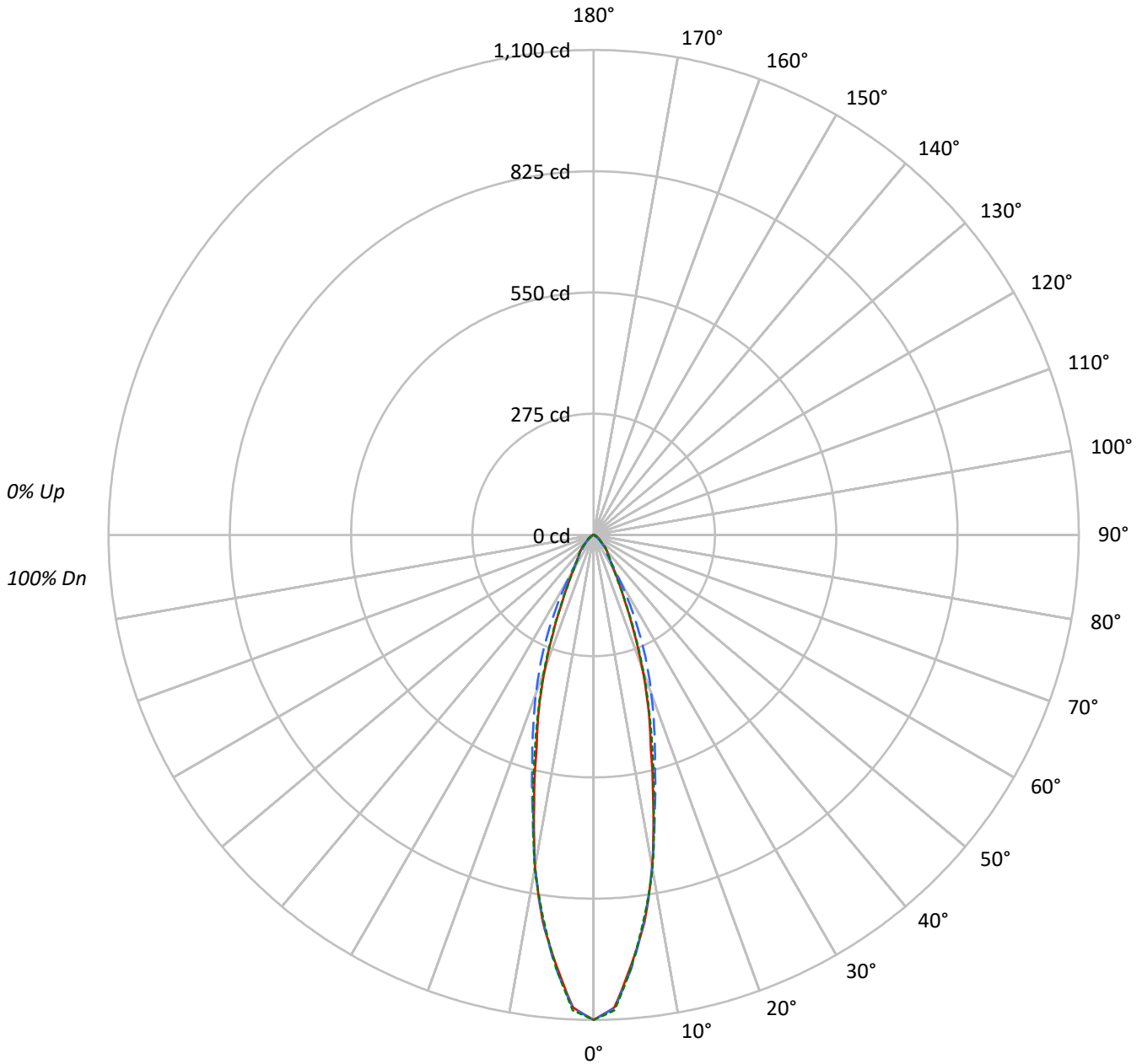
Lumens per Lamp: N/A
Luminaire Lumens: 400.6 lumens
Efficiency: N/A
Efficacy: 66.8 lumens/watt
Spacing Criteria (0/90/45): 0.46 / 0.47 / 0.55
Luminous Opening: Rectangular (W 0.08' x L: 0.08' x H: 0')
CIE Type: Direct

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				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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	112	109	107	105	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	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	79	94	88	83	79	86	82	78	84	81	78	83	80	77	76
6	92	84	79	75	91	83	78	75	82	78	74	81	77	74	79	76	73	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	71	67	74	70	67	73	70	67	66
9	82	73	68	65	81	73	68	65	72	68	65	71	67	64	71	67	64	63
10	79	71	66	62	78	70	65	62	69	65	62	69	65	62	68	64	62	60

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1705173	1705173	1705173
5°	1521551	1533687	1529642
10°	1203425	1203425	1209563
15°	803310	861721	828343
20°	529817	628457	540539
25°	291256	415934	297926
30°	165199	207080	160545
35°	113155	100855	115615
40°	92065	76282	94695
45°	62693	56993	62693
50°	43887	37618	43887
55°	35131	14052	35131
60°	28210	12090	28210
65°	19072	9536	19072
70°	11783	5892	11783
75°	7785	7785	7785
80°	11604	0	11604
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 62693 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	21.7
10°-20°	146.0	36.4
20°-30°	93.9	23.4
30°-40°	39.4	9.8
40°-50°	20.7	5.2
50°-60°	8.2	2.0
60°-70°	3.7	0.9
70°-80°	1.5	0.4
80°-90°	0.1	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°	327.0	81.6
0°-40°	366.4	91.4
0°-60°	395.2	98.7
0°-90°	400.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	400.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1100	1100	1100	1100	1100	
5°	978	979	986	980	983	87
15°	501	521	537	527	516	141
25°	170	189	243	194	174	83
35°	60	62	53	61	61	39
45°	29	26	26	27	29	23
55°	13	8	5	8	13	12
65°	5	4	3	4	5	5
75°	1	1	1	1	1	2
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°	1100.1	1100.1	1100.1	1100.1	1100.1
2.5°	1072.8	1075.4	1074.1	1075.4	1079.3
5°	977.9	979.2	985.7	980.5	983.1
7.5°	885.5	880.3	880.3	881.6	876.4
10°	764.6	759.4	764.6	762.0	768.5
12.5°	622.9	630.7	639.8	637.2	630.7
15°	500.6	521.4	537.0	526.6	516.2
17.5°	412.2	425.2	455.1	431.7	416.1
20°	321.2	340.7	381.0	347.2	327.7
22.5°	239.3	264.0	313.4	267.9	244.5
25°	170.3	188.6	243.2	193.8	174.2
27.5°	124.8	136.5	178.1	139.1	120.9
30°	92.3	104.0	115.7	101.4	89.7
32.5°	71.5	80.6	72.8	78.0	72.8
35°	59.8	62.4	53.3	61.1	61.1
37.5°	52.0	48.1	44.2	48.1	53.3
40°	45.5	39.0	37.7	40.3	46.8
42.5°	37.7	33.8	31.2	33.8	39.0
45°	28.6	26.0	26.0	27.3	28.6
47.5°	20.8	16.9	22.1	18.2	22.1
50°	18.2	11.7	15.6	11.7	18.2
52.5°	15.6	10.4	9.1	10.4	15.6
55°	13.0	7.8	5.2	7.8	13.0
57.5°	10.4	6.5	3.9	6.5	10.4
60°	9.1	5.2	3.9	5.2	9.1
62.5°	6.5	3.9	2.6	5.2	6.5
65°	5.2	3.9	2.6	3.9	5.2
67.5°	3.9	2.6	1.3	2.6	3.9
70°	2.6	2.6	1.3	2.6	2.6
72.5°	2.6	1.3	1.3	1.3	2.6
75°	1.3	1.3	1.3	1.3	1.3
77.5°	1.3	1.3	1.3	1.3	1.3
80°	1.3	1.3	0.0	1.3	1.3
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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