

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: P885910

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-3500K

Issue Date: 6/19/2024

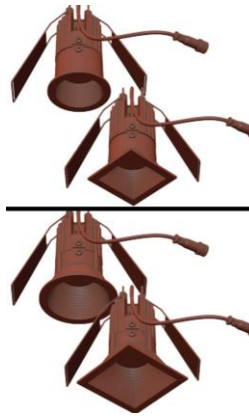
Test Information

Test Method: LM-79-2019
Report Number: P885910
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-142)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 6/19/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-3500K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 457.5 lumens
Efficiency: N/A
Efficacy: 76.3 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

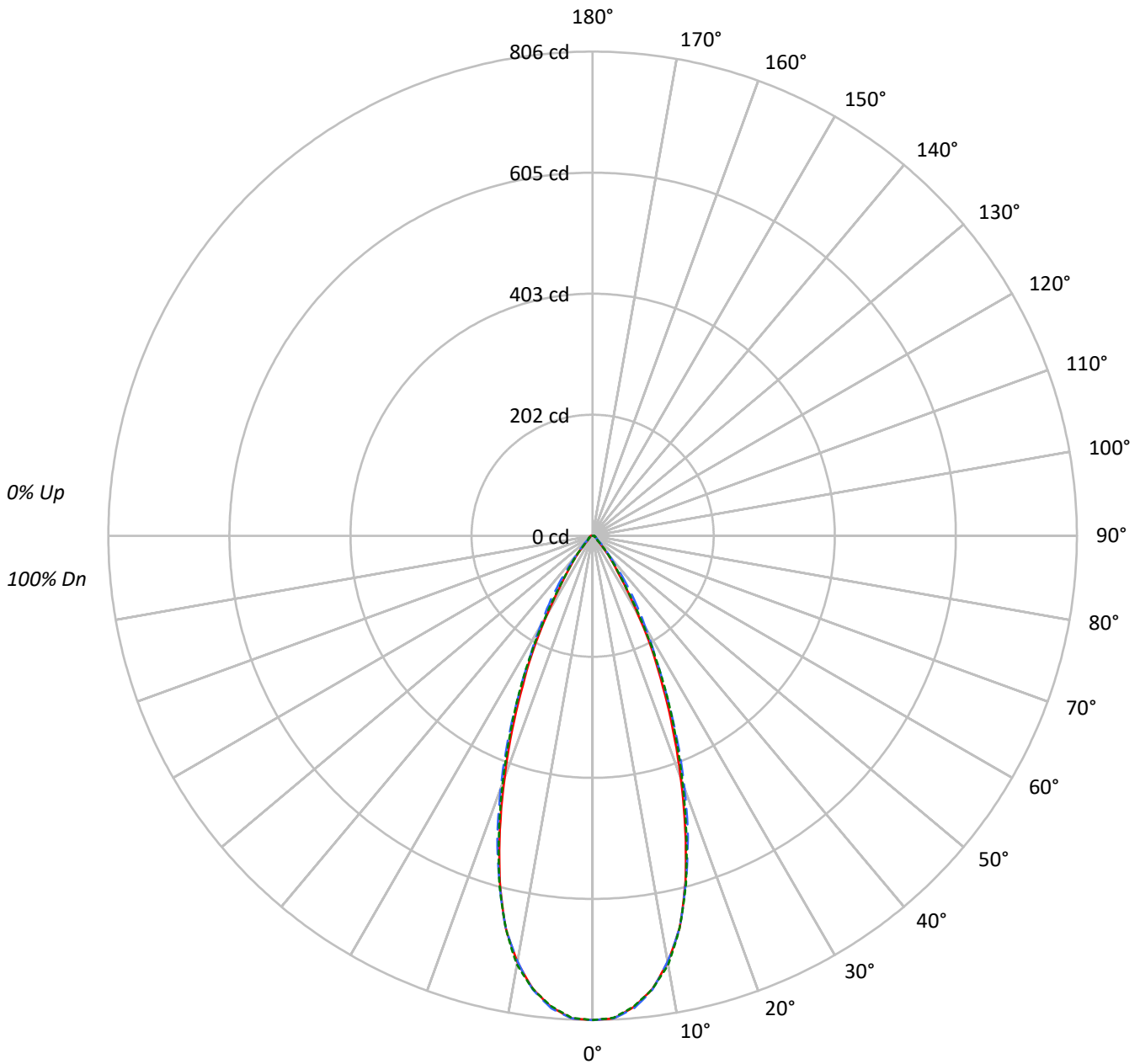
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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	106	111	109	107	105	105	103	101	101	100	98	98	97	96	94		
2	108	104	100	97	106	102	99	96	99	96	93	96	94	91	93	91	90	88		
3	103	97	93	89	102	96	92	88	93	90	87	91	88	86	89	86	84	83		
4	99	92	87	83	97	91	86	82	89	84	81	87	83	80	85	82	79	78		
5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74		
6	90	82	77	73	89	81	76	72	80	75	72	79	75	71	77	74	71	70		
7	87	78	73	69	85	77	72	68	76	71	68	75	71	68	74	70	67	66		
8	83	74	69	65	82	74	69	65	73	68	65	72	67	64	71	67	64	63		
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60		
10	76	68	62	59	76	67	62	59	66	62	59	66	61	58	65	61	58	57		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1249623	1249623	1249623
5°	1225300	1228723	1223589
10°	1134015	1132284	1140940
15°	957040	960570	962335
20°	706478	737323	720993
25°	471517	494092	495974
30°	271334	312500	287085
35°	133023	184870	139267
40°	73247	86602	77699
45°	31346	48225	31346
50°	23873	26525	23873
55°	20808	20808	20808
60°	20460	20460	20460
65°	20172	20172	20172
70°	19941	19941	19941
75°	19763	19763	19763
80°	19638	19638	19638
85°	19563	19563	19563

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 48225 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.1	16.0
10°-20°	163.6	35.8
20°-30°	132.1	28.9
30°-40°	55.4	12.1
40°-50°	16.0	3.5
50°-60°	7.0	1.5
60°-70°	5.4	1.2
70°-80°	3.8	0.8
80°-90°	1.1	0.2
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°	368.9	80.6
0°-40°	424.2	92.7
0°-60°	447.2	97.7
0°-90°	457.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	457.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	806	806	806	806	806	
5°	788	788	790	789	786	73
15°	596	594	599	596	600	162
25°	276	284	289	290	290	127
35°	70	78	98	80	74	49
45°	14	18	22	19	14	14
55°	8	8	8	8	8	7
65°	6	6	6	6	6	5
75°	3	3	3	3	3	4
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°	806.2	806.2	806.2	806.2	806.2
2.5°	804.0	804.0	804.0	805.1	802.9
5°	787.5	787.5	789.7	788.6	786.4
7.5°	761.1	761.1	762.2	762.2	761.1
10°	720.5	721.6	719.4	722.7	724.9
12.5°	668.9	667.8	668.9	670.0	668.9
15°	596.4	594.2	598.6	596.4	599.7
17.5°	512.9	520.6	527.2	522.8	518.4
20°	428.3	434.9	447.0	441.5	437.1
22.5°	349.3	358.0	367.9	365.7	360.2
25°	275.7	284.5	288.9	290.0	290.0
27.5°	213.1	220.8	224.1	228.4	221.9
30°	151.6	162.5	174.6	173.5	160.4
32.5°	103.2	114.2	135.1	121.9	107.6
35°	70.3	78.0	97.7	80.2	73.6
37.5°	51.6	56.0	64.8	57.1	53.8
40°	36.2	39.5	42.8	41.7	38.4
42.5°	24.2	27.5	30.8	28.6	24.2
45°	14.3	17.6	22.0	18.7	14.3
47.5°	11.0	12.1	16.5	12.1	11.0
50°	9.9	9.9	11.0	9.9	9.9
52.5°	8.8	8.8	8.8	8.8	8.8
55°	7.7	7.7	7.7	7.7	7.7
57.5°	6.6	6.6	6.6	6.6	6.6
60°	6.6	6.6	6.6	6.6	6.6
62.5°	5.5	5.5	5.5	5.5	5.5
65°	5.5	5.5	5.5	5.5	5.5
67.5°	4.4	5.5	5.5	5.5	5.5
70°	4.4	4.4	4.4	4.4	4.4
72.5°	4.4	4.4	4.4	4.4	4.4
75°	3.3	3.3	3.3	3.3	3.3
77.5°	3.3	3.3	3.3	3.3	3.3
80°	2.2	2.2	2.2	2.2	2.2
82.5°	2.2	2.2	1.1	2.2	2.2
85°	1.1	1.1	1.1	1.1	1.1
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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