

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: P885909

Luminaire Tested: ML104LSFL9FS1E-TIR1D40FL-TL1SDMW-400LM-3000K

Issue Date: 6/19/2024

Test Information

Test Method: LM-79-2019
Report Number: P885909
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-3000K
Description: 1IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 432.3 lumens
Efficiency: N/A
Efficacy: 72.1 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

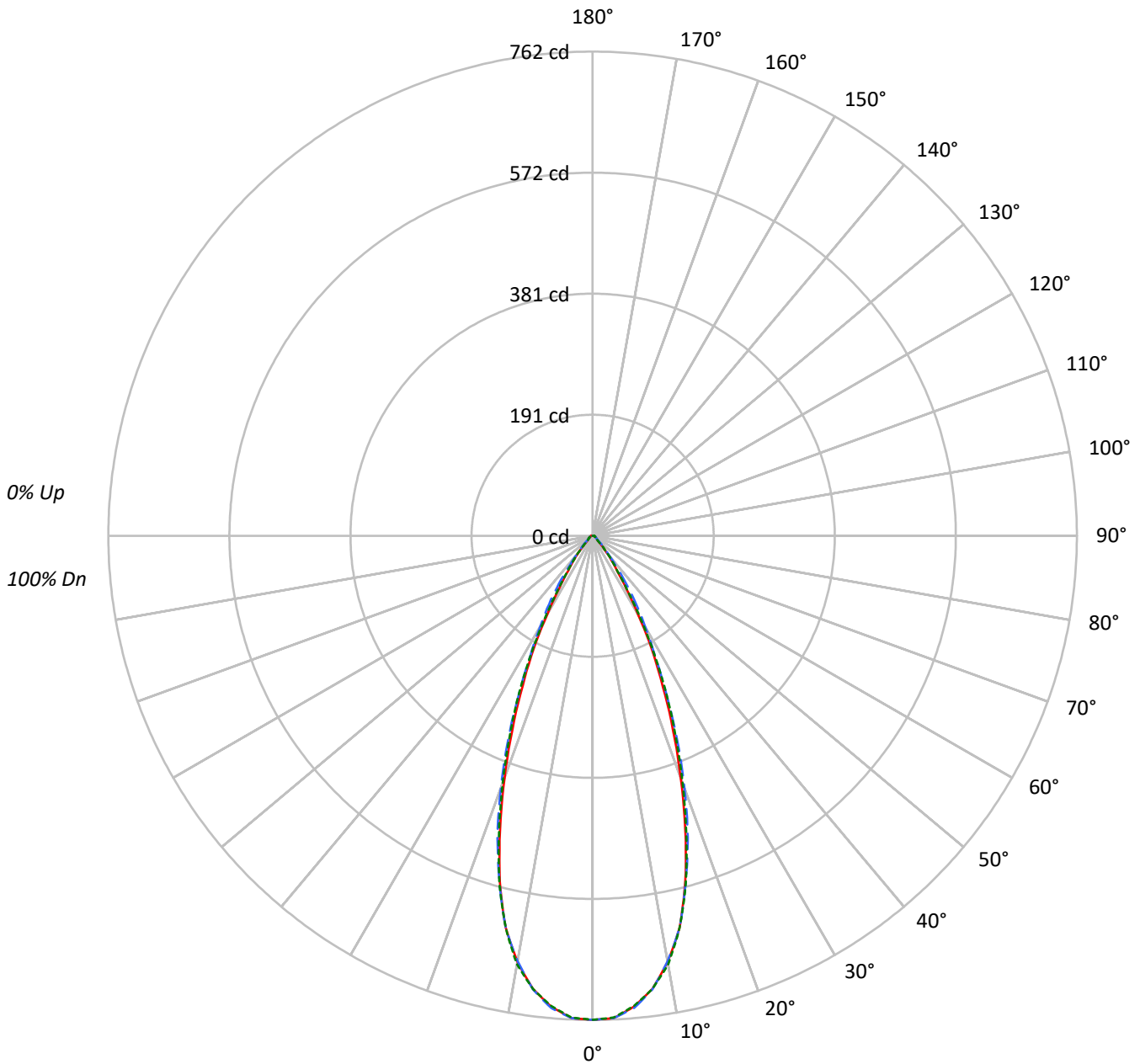
Input Watts (W): 6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	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	72	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°	1180802	1180802	1180802
5°	1157928	1161040	1156217
10°	1071687	1069956	1078140
15°	904406	907615	909381
20°	667715	696746	681405
25°	445521	466899	468609
30°	256300	295318	271155
35°	125643	174841	131509
40°	69403	81948	73450
45°	29593	45595	29593
50°	22426	25079	22426
55°	19727	19727	19727
60°	19220	19220	19220
65°	19072	19072	19072
70°	19034	19034	19034
75°	18565	18565	18565
80°	18745	18745	18745
85°	17784	17784	17784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 45595 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	69.1	16.0
10°-20°	154.6	35.8
20°-30°	124.8	28.9
30°-40°	52.3	12.1
40°-50°	15.1	3.5
50°-60°	6.6	1.5
60°-70°	5.1	1.2
70°-80°	3.6	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°	348.6	80.6
0°-40°	400.9	92.7
0°-60°	422.6	97.7
0°-90°	432.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	432.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	762	762	762	762	762	
5°	744	744	746	745	743	69
15°	564	562	566	564	567	153
25°	260	269	273	274	274	120
35°	66	74	92	76	70	46
45°	14	17	21	18	14	13
55°	7	7	7	7	7	7
65°	5	5	5	5	5	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°	761.8	761.8	761.8	761.8	761.8
2.5°	759.7	759.7	759.7	760.8	758.7
5°	744.2	744.2	746.2	745.2	743.1
7.5°	719.3	719.3	720.3	720.3	719.3
10°	680.9	681.9	679.8	682.9	685.0
12.5°	632.1	631.0	632.1	633.1	632.1
15°	563.6	561.5	565.6	563.6	566.7
17.5°	484.7	492.0	498.2	494.0	489.9
20°	404.8	411.0	422.4	417.2	413.1
22.5°	330.0	338.4	347.7	345.6	340.4
25°	260.5	268.8	273.0	274.0	274.0
27.5°	201.4	208.6	211.7	215.9	209.7
30°	143.2	153.6	165.0	164.0	151.5
32.5°	97.6	107.9	127.7	115.2	101.7
35°	66.4	73.7	92.4	75.8	69.5
37.5°	48.8	52.9	61.2	54.0	50.9
40°	34.3	37.4	40.5	39.4	36.3
42.5°	22.8	25.9	29.1	27.0	22.8
45°	13.5	16.6	20.8	17.6	13.5
47.5°	10.4	11.4	15.6	11.4	10.4
50°	9.3	9.3	10.4	9.3	9.3
52.5°	8.3	8.3	8.3	8.3	8.3
55°	7.3	7.3	7.3	7.3	7.3
57.5°	6.2	6.2	6.2	6.2	6.2
60°	6.2	6.2	6.2	6.2	6.2
62.5°	5.2	5.2	5.2	5.2	5.2
65°	5.2	5.2	5.2	5.2	5.2
67.5°	4.2	5.2	5.2	5.2	5.2
70°	4.2	4.2	4.2	4.2	4.2
72.5°	4.2	4.2	4.2	4.2	4.2
75°	3.1	3.1	3.1	3.1	3.1
77.5°	3.1	3.1	3.1	3.1	3.1
80°	2.1	2.1	2.1	2.1	2.1
82.5°	2.1	2.1	1.0	2.1	2.1
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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