

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: P887110

Luminaire Tested: ML412LSFLD2W1E-TIR4D40FL-TL4SDMB-600LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887110
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-53)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D40FL-TL4SDMB-600LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 768.2 lumens
Efficiency: N/A
Efficacy: 81.7 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.65
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

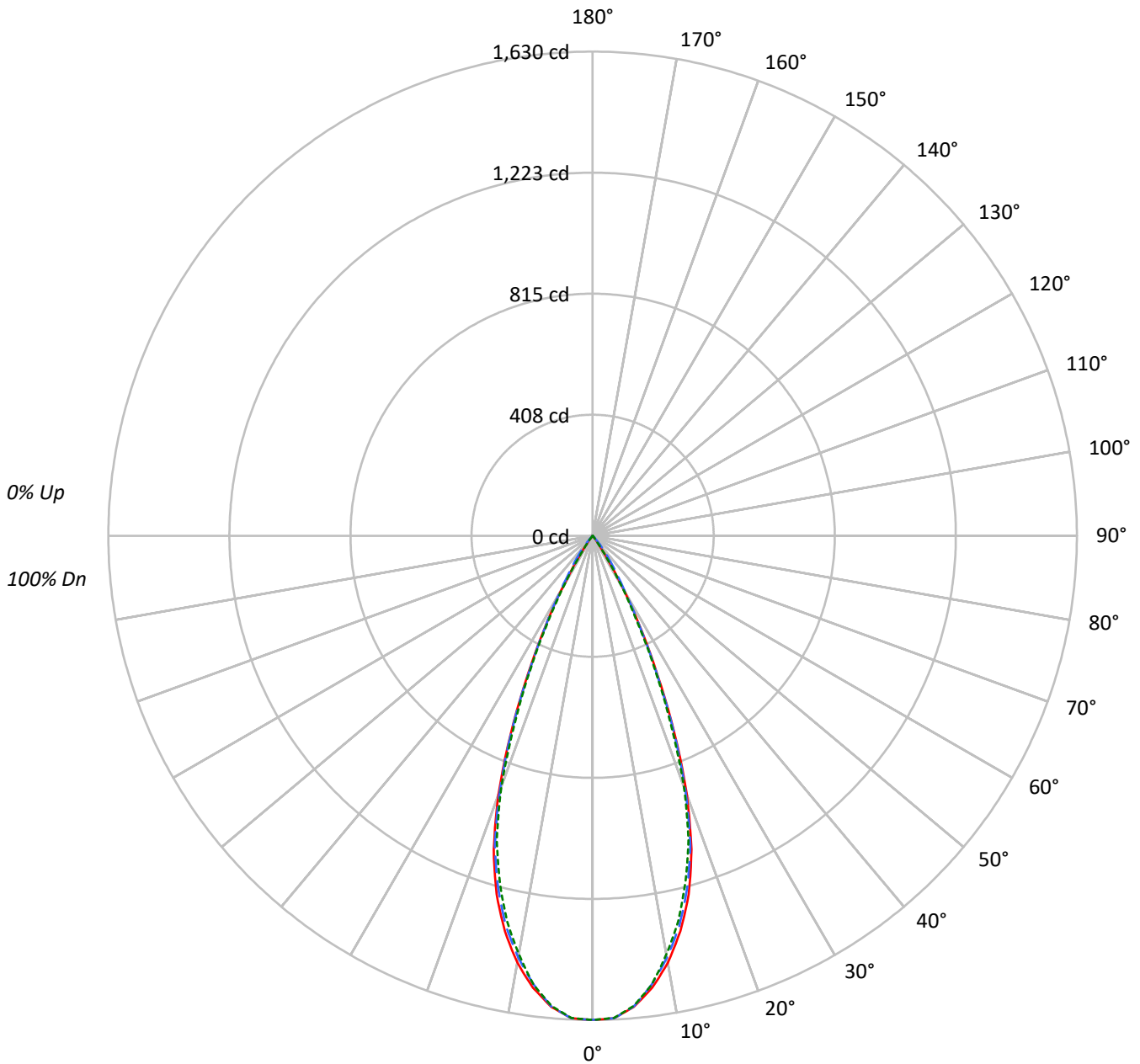
Input Watts (W): 9.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	115	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96																			
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91																			
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87																			
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83																			
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79																			
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76																			
7	91	83	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73																			
8	88	80	75	72	87	79	75	72	79	74	71	78	74	71	77	73	71	70																			
9	85	77	72	69	84	76	72	69	76	71	68	75	71	68	74	71	68	67																			
10	82	74	69	66	81	73	69	66	73	69	66	72	68	66	71	68	65	64																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	157868	157868	157868
5°	154815	154718	154465
10°	143541	141820	140698
15°	125276	123260	121043
20°	95433	94216	92515
25°	55038	53937	52943
30°	22976	24598	20963
35°	4257	11389	3713
40°	645	4034	645
45°	69	781	69
50°	0	151	0
55°	0	0	0
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: 781 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.0	19.1
10°-20°	335.7	43.7
20°-30°	234.6	30.5
30°-40°	47.9	6.2
40°-50°	3.0	0.4
50°-60°	0.1	0.0
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°	717.3	93.4
0°-40°	765.2	99.6
0°-60°	768.2	100.0
0°-90°	768.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	768.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1592	1594	1591	1586	1588	148
15°	1249	1247	1229	1215	1207	341
25°	515	518	505	497	495	239
35°	36	59	96	51	31	37
45°	0	1	6	1	0	1
55°	0	0	0	0	0	0
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°	1629.6	1629.6	1629.6	1629.6	1629.6
2.5°	1626.0	1624.9	1626.0	1625.5	1624.9
5°	1592.0	1593.5	1591.0	1586.3	1588.4
7.5°	1534.8	1530.7	1523.5	1521.5	1524.0
10°	1459.2	1448.9	1441.7	1439.1	1430.3
12.5°	1363.4	1358.2	1345.9	1334.6	1329.9
15°	1249.1	1247.0	1229.0	1214.6	1206.9
17.5°	1107.0	1097.7	1093.6	1079.7	1073.0
20°	925.7	925.7	913.9	894.3	897.4
22.5°	719.8	712.1	714.6	694.1	687.9
25°	514.9	518.0	504.6	497.4	495.3
27.5°	347.0	342.4	343.4	330.0	320.3
30°	205.4	219.9	219.9	207.5	187.4
32.5°	96.3	123.6	145.2	115.3	81.9
35°	36.0	59.2	96.3	51.0	31.4
37.5°	13.9	24.2	58.7	20.6	12.9
40°	5.1	9.8	31.9	9.3	5.1
42.5°	2.1	3.6	14.9	3.1	2.1
45°	0.5	1.0	5.7	1.0	0.5
47.5°	0.5	0.5	2.1	0.5	0.0
50°	0.0	0.0	1.0	0.0	0.0
52.5°	0.0	0.0	0.5	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	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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