

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: P887102

Luminaire Tested: ML412LSFLD2W1E-TIR4D25NFL-TL4SDSL-600LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887102
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-49)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D25NFL-TL4SDSL-600LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 685.3 lumens
Efficiency: N/A
Efficacy: 72.9 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

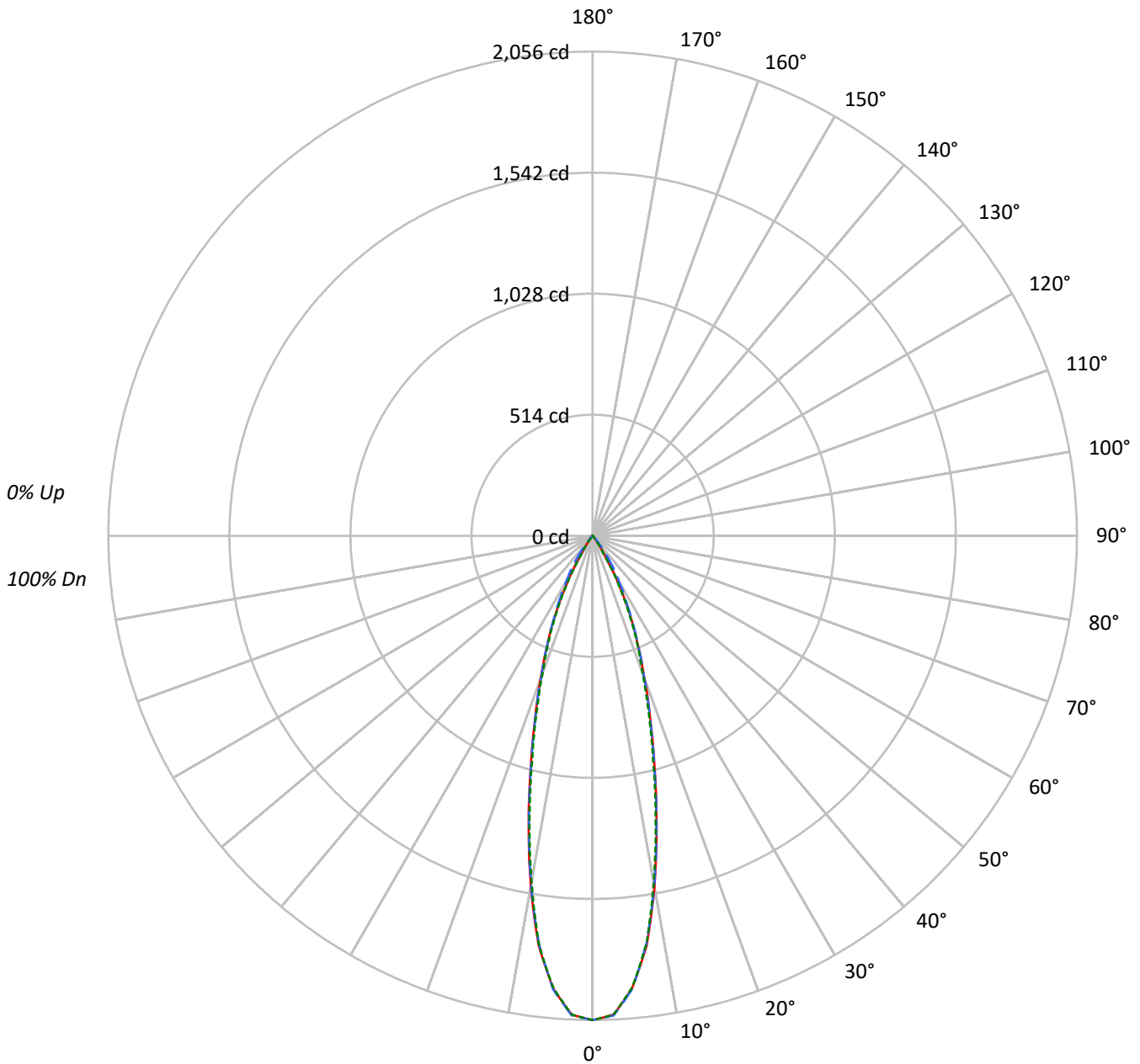
Input Watts (W): 9.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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	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	107	106	105	103	102	101	100	99	98	97	96								
2	110	106	103	100	108	105	102	99	102	99	97	99	97	95	96	94	93	92								
3	106	101	97	94	104	100	96	93	97	94	92	95	92	90	93	91	89	88								
4	102	96	92	89	101	95	91	88	93	90	87	91	88	86	90	87	85	84								
5	99	92	87	84	97	91	87	84	90	86	83	88	85	82	87	84	82	80								
6	95	88	84	80	94	87	83	80	86	82	79	85	81	79	84	81	78	77								
7	92	85	80	77	91	84	80	76	83	79	76	82	78	76	81	78	75	74								
8	89	81	77	73	88	81	76	73	80	76	73	79	75	73	78	75	72	71								
9	86	78	74	71	85	78	74	70	77	73	70	76	73	70	76	72	70	69								
10	83	76	71	68	82	75	71	68	74	70	68	74	70	68	73	70	67	66								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	199224	199224	199224
5°	187480	187830	187178
10°	148696	148243	146925
15°	101557	101195	99641
20°	66196	65773	63866
25°	41302	41848	39378
30°	18077	25091	16578
35°	4801	13387	4257
40°	1100	4426	1037
45°	562	986	493
50°	316	467	316
55°	253	253	253
60°	194	194	194
65°	229	229	229
70°	142	142	142
75°	187	187	187
80°	279	279	279
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 986 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.5	24.9
10°-20°	280.4	40.9
20°-30°	177.4	25.9
30°-40°	49.0	7.2
40°-50°	5.1	0.7
50°-60°	1.4	0.2
60°-70°	0.9	0.1
70°-80°	0.5	0.1
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°	628.3	91.7
0°-40°	677.3	98.8
0°-60°	683.7	99.8
0°-90°	685.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	685.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2056	2056	2056	2056	2056	
5°	1928	1932	1932	1921	1925	171
15°	1013	1020	1009	996	994	282
25°	386	392	392	380	368	174
35°	41	62	113	58	36	34
45°	4	5	7	4	4	3
55°	2	2	2	2	2	1
65°	1	1	1	1	1	1
75°	0	0	0	0	0	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°	2056.5	2056.5	2056.5	2056.5	2056.5
2.5°	2035.4	2038.5	2039.0	2038.5	2035.4
5°	1927.9	1931.5	1931.5	1920.7	1924.8
7.5°	1755.0	1746.8	1745.7	1741.6	1748.3
10°	1511.6	1516.3	1507.0	1507.5	1493.6
12.5°	1253.9	1257.5	1249.7	1240.5	1236.9
15°	1012.6	1019.8	1009.0	996.1	993.5
17.5°	812.4	825.8	808.3	796.5	792.9
20°	642.1	647.8	638.0	625.1	619.5
22.5°	503.7	504.7	506.8	493.9	491.4
25°	386.4	392.1	391.5	380.2	368.4
27.5°	266.0	296.9	298.9	285.6	257.3
30°	161.6	195.0	224.3	184.7	148.2
32.5°	84.9	120.4	167.7	109.6	75.6
35°	40.6	62.3	113.2	58.1	36.0
37.5°	14.9	29.3	68.4	26.8	14.4
40°	8.7	11.8	35.0	11.3	8.2
42.5°	5.7	7.2	17.5	6.7	5.7
45°	4.1	4.6	7.2	4.1	3.6
47.5°	2.6	3.1	4.1	3.1	2.6
50°	2.1	2.1	3.1	2.1	2.1
52.5°	1.5	1.5	2.1	1.5	1.5
55°	1.5	1.5	1.5	1.5	1.5
57.5°	1.0	1.5	1.5	1.5	1.0
60°	1.0	1.0	1.0	1.0	1.0
62.5°	1.0	1.0	1.0	1.0	1.0
65°	1.0	1.0	1.0	1.0	1.0
67.5°	0.5	1.0	1.0	1.0	0.5
70°	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.5	0.5	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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