

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: P887098

Luminaire Tested: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMB-600LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887098
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMB-600LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT
Ballast/Driver: -

Summary

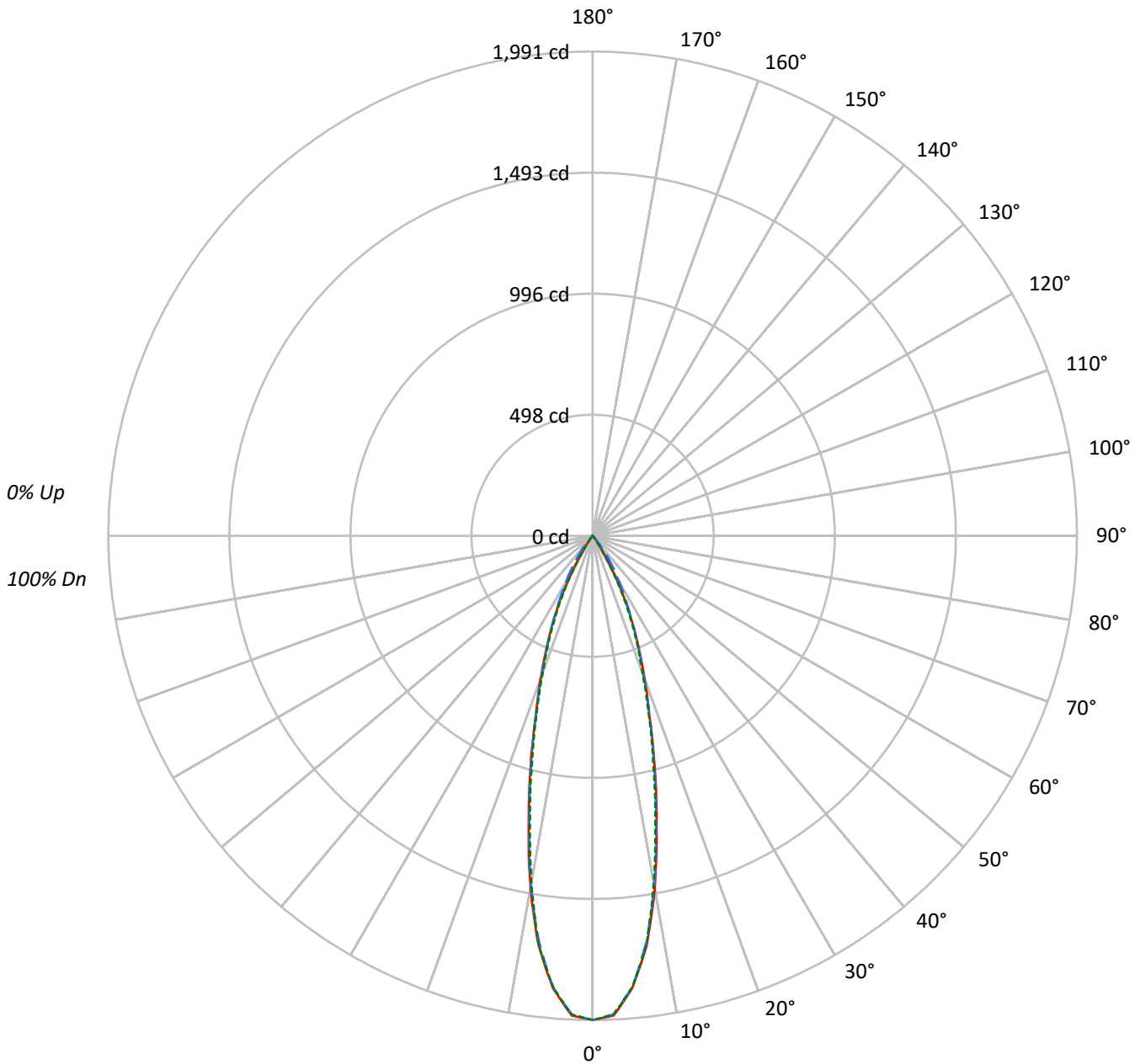
Lumens per Lamp: N/A
Luminaire Lumens: 655.5 lumens
Efficiency: N/A
Efficacy: 69.7 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	192889	192889	192889
5°	181664	181207	181159
10°	144859	143954	142381
15°	98999	97966	96522
20°	64175	63278	61526
25°	40073	39902	37978
30°	17104	24419	15381
35°	4021	13340	3773
40°	645	4034	645
45°	206	781	137
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°	164.9	25.2
10°-20°	270.2	41.2
20°-30°	170.9	26.1
30°-40°	46.1	7.0
40°-50°	3.3	0.5
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°	606.0	92.5
0°-40°	652.2	99.5
0°-60°	655.5	100.0
0°-90°	655.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	655.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1991	1991	1991	1991	1991	
5°	1868	1866	1863	1865	1863	166
15°	987	981	977	959	962	273
25°	375	378	373	369	355	169
35°	34	59	113	53	32	30
45°	2	2	6	2	1	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°	1991.1	1991.1	1991.1	1991.1	1991.1
2.5°	1974.7	1973.1	1969.5	1971.6	1970.5
5°	1868.1	1866.0	1863.4	1865.0	1862.9
7.5°	1700.2	1690.4	1685.8	1687.3	1696.6
10°	1472.6	1458.2	1463.4	1442.2	1447.4
12.5°	1214.7	1208.5	1206.4	1202.3	1189.4
15°	987.1	980.9	976.8	959.3	962.4
17.5°	777.0	783.2	776.5	769.8	764.6
20°	622.5	617.4	613.8	605.5	596.8
22.5°	489.7	488.1	484.5	475.3	472.7
25°	374.9	377.9	373.3	369.2	355.3
27.5°	260.0	285.8	288.9	274.4	245.6
30°	152.9	186.9	218.3	180.7	137.5
32.5°	79.8	111.7	162.2	105.0	69.0
35°	34.0	59.2	112.8	53.0	31.9
37.5°	10.8	25.7	63.8	23.2	11.3
40°	5.1	8.2	31.9	8.8	5.1
42.5°	2.6	4.1	15.4	4.1	2.6
45°	1.5	2.1	5.7	2.1	1.0
47.5°	0.5	1.0	2.1	1.0	0.5
50°	0.0	0.5	1.0	0.5	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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