

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: P886909

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDMB-1020LM-5000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886909
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: ML412LSFL95FS1E-TIR4D40FL-TL4SDMB-1020LM-5000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

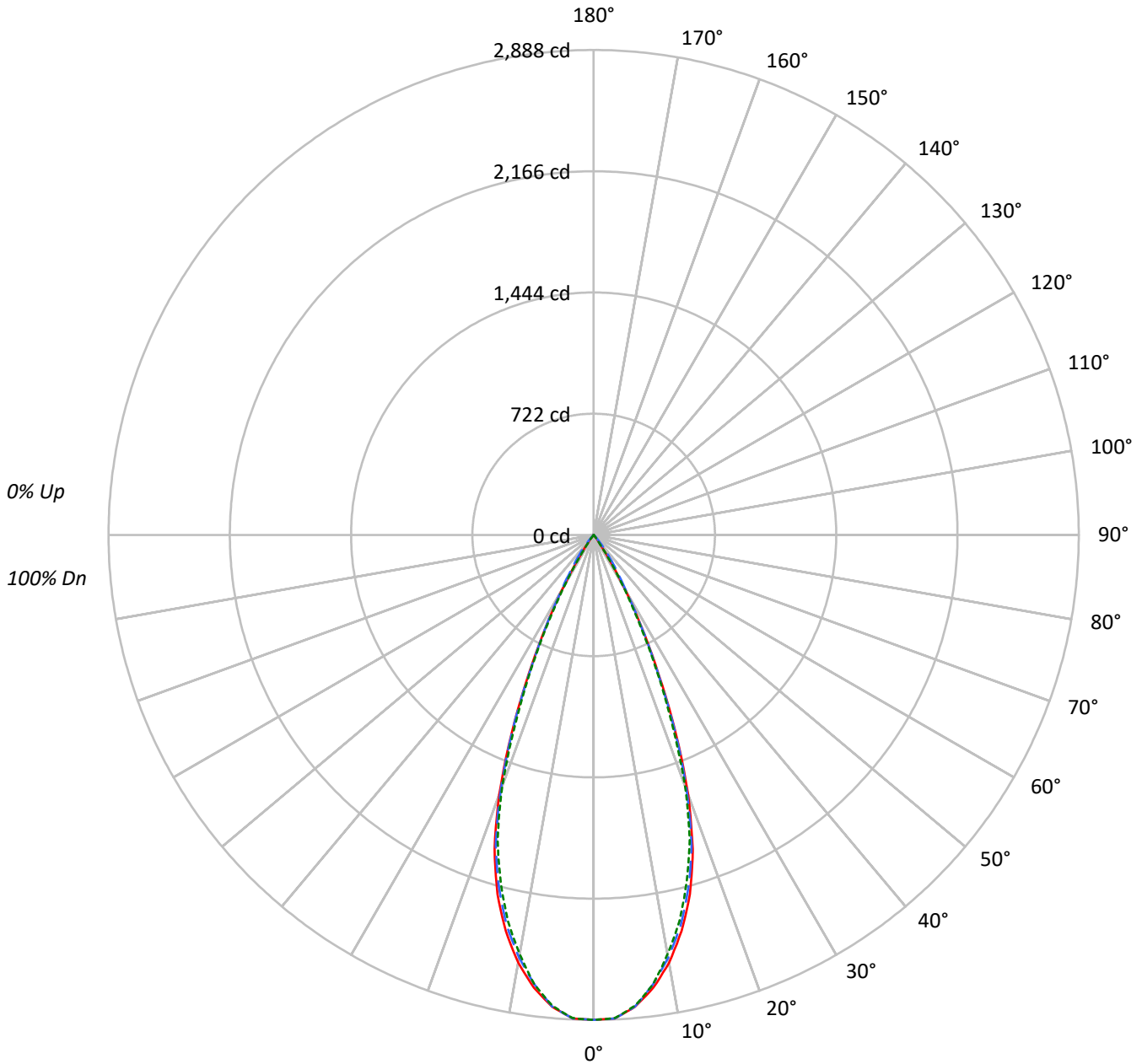
Lumens per Lamp: N/A
Luminaire Lumens: 1361.5 lumens
Efficiency: N/A
Efficacy: 77.4 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.65
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 17.6
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					10					0
RW	70	50	30	10	70	50	30	10	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					100			
1	115	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96					96			
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91					91			
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87					87			
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83					83			
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79					79			
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76					76			
7	91	83	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73					73			
8	88	80	75	72	87	79	75	72	79	74	71	78	74	71	77	73	71	70					70			
9	85	77	72	69	84	76	72	69	76	71	68	75	71	68	74	71	68	67					67			
10	82	74	69	66	81	73	69	66	73	69	66	72	68	66	71	68	65	64					64			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	279796	279796	279796
5°	274388	274203	273765
10°	254394	251345	249368
15°	222028	218458	214526
20°	169144	166979	163969
25°	97537	95592	93839
30°	40729	43593	37161
35°	7557	20176	6587
40°	1151	7158	1151
45°	123	1370	123
50°	0	271	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: 1370 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	260.5	19.1
10°-20°	595.0	43.7
20°-30°	415.7	30.5
30°-40°	84.9	6.2
40°-50°	5.2	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°	1271.2	93.4
0°-40°	1356.2	99.6
0°-60°	1361.5	100.0
0°-90°	1361.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1361.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2888	2888	2888	2888	2888	
5°	2822	2824	2820	2812	2815	262
15°	2214	2210	2178	2153	2139	604
25°	912	918	894	882	878	423
35°	64	105	171	90	56	66
45°	1	2	10	2	1	2
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°	2888.2	2888.2	2888.2	2888.2	2888.2
2.5°	2881.8	2880.0	2881.8	2880.9	2880.0
5°	2821.6	2824.3	2819.7	2811.5	2815.2
7.5°	2720.3	2713.0	2700.2	2696.5	2701.1
10°	2586.1	2567.9	2555.1	2550.5	2535.0
12.5°	2416.4	2407.3	2385.4	2365.3	2357.1
15°	2213.8	2210.2	2178.2	2152.7	2139.0
17.5°	1961.9	1945.5	1938.2	1913.6	1901.7
20°	1640.7	1640.7	1619.7	1585.1	1590.5
22.5°	1275.7	1262.0	1266.6	1230.1	1219.1
25°	912.5	918.0	894.3	881.5	877.9
27.5°	615.0	606.8	608.7	584.9	567.6
30°	364.1	389.7	389.7	367.8	332.2
32.5°	170.6	219.0	257.3	204.4	145.1
35°	63.9	104.9	170.6	90.3	55.7
37.5°	24.6	42.9	104.0	36.5	22.8
40°	9.1	17.3	56.6	16.4	9.1
42.5°	3.7	6.4	26.5	5.5	3.7
45°	0.9	1.8	10.0	1.8	0.9
47.5°	0.9	0.9	3.7	0.9	0.0
50°	0.0	0.0	1.8	0.0	0.0
52.5°	0.0	0.0	0.9	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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