

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: P886938

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMB-1020LM-4000K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-56)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/10/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMB-1020LM-4000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT
Ballast/Driver: -

Summary

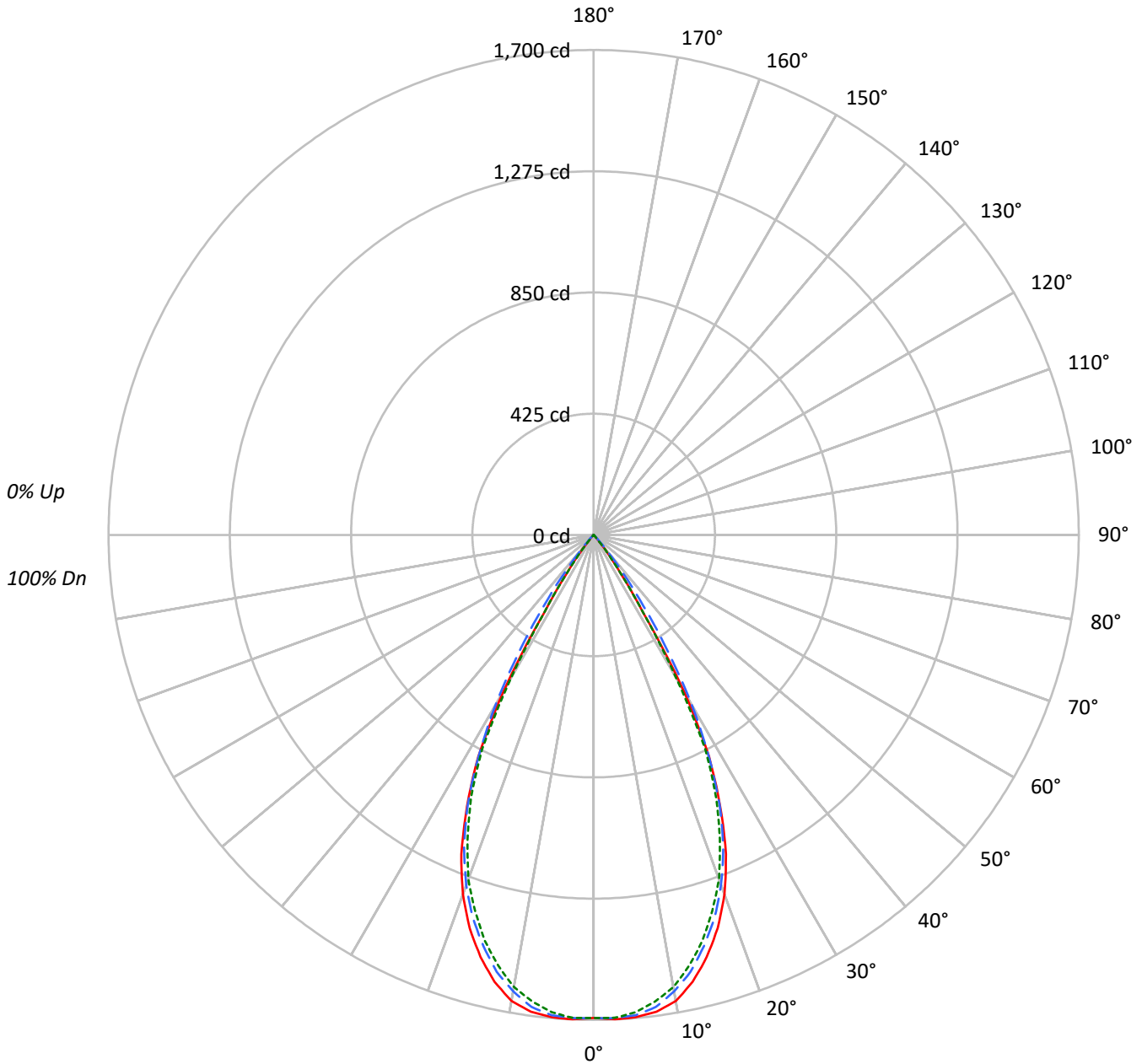
Lumens per Lamp: N/A
Luminaire Lumens: 1206.2 lumens
Efficiency: N/A
Efficacy: 68.5 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.87 / 0.83
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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									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	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95																			
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	89																			
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84																			
4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80																			
5	96	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75																			
6	91	83	78	74	90	83	78	74	81	77	73	80	76	73	79	75	73	71																			
7	87	79	74	70	86	78	73	70	77	73	69	76	72	69	75	71	69	67																			
8	84	75	70	66	83	75	70	66	74	69	66	73	68	65	72	68	65	64																			
9	80	72	66	63	79	71	66	63	70	66	62	69	65	62	69	65	62	61																			
10	77	68	63	59	76	68	63	59	67	62	59	66	62	59	66	62	59	58																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	164049	164049	164049
5°	165016	164335	163324
10°	163176	159763	158316
15°	153588	149677	147681
20°	138144	134567	132340
25°	112213	111572	108600
30°	70641	76939	64533
35°	19360	36058	19159
40°	2744	8549	1973
45°	123	1904	123
50°	0	256	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: 1904 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.3	13.2
10°-20°	416.9	34.6
20°-30°	462.6	38.3
30°-40°	160.0	13.3
40°-50°	7.3	0.6
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°	1038.7	86.1
0°-40°	1198.8	99.4
0°-60°	1206.2	100.0
0°-90°	1206.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1206.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1697	1694	1690	1682	1680	161
15°	1531	1518	1492	1478	1472	426
25°	1050	1043	1044	1023	1016	468
35°	164	185	305	189	162	132
45°	1	3	14	3	1	3
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°	1693.4	1693.4	1693.4	1693.4	1693.4
2.5°	1699.5	1696.9	1695.1	1694.3	1694.3
5°	1696.9	1694.3	1689.9	1682.1	1679.5
7.5°	1685.6	1676.9	1669.1	1657.0	1649.2
10°	1658.8	1647.5	1624.1	1612.8	1609.4
12.5°	1604.2	1591.2	1568.7	1551.3	1546.1
15°	1531.4	1517.6	1492.4	1477.7	1472.5
17.5°	1444.8	1434.4	1407.6	1387.6	1381.6
20°	1340.0	1324.4	1305.3	1288.0	1283.7
22.5°	1211.8	1197.9	1186.7	1165.0	1154.6
25°	1049.8	1042.9	1043.8	1023.0	1016.0
27.5°	875.7	880.0	872.3	864.5	847.1
30°	631.5	689.5	687.8	658.3	576.9
32.5°	317.9	414.9	485.9	392.4	323.1
35°	163.7	185.4	304.9	188.8	162.0
37.5°	73.6	85.8	170.6	84.9	71.9
40°	21.7	35.5	67.6	34.6	15.6
42.5°	3.5	10.4	32.0	6.9	3.5
45°	0.9	2.6	13.9	2.6	0.9
47.5°	0.9	0.9	4.3	0.9	0.0
50°	0.0	0.0	1.7	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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