

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: P886948

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDSL-1020LM-4000K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886948
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-55)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/10/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D55WFL-TL4SDSL-1020LM-4000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT
Ballast/Driver: -

Summary

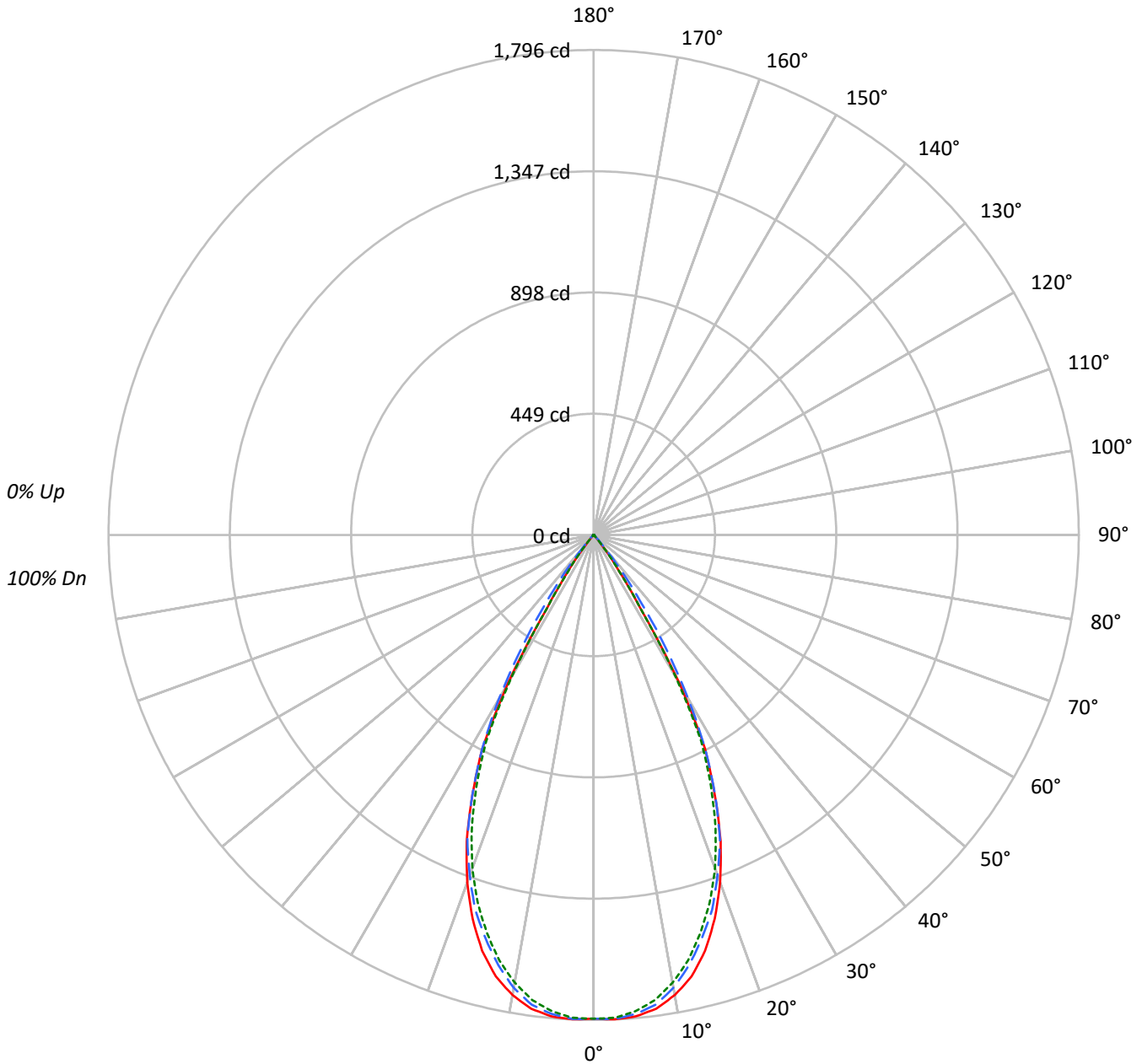
Lumens per Lamp: N/A
Luminaire Lumens: 1248.7 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.85 / 0.82
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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	105	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	92	91	89																			
3	104	99	94	91	102	97	93	90	95	91	88	92	89	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	95	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	72	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	69	66	74	69	66	73	68	65	72	68	65	64																			
9	80	71	66	63	79	71	66	62	70	65	62	69	65	62	68	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°	173552	173552	173552
5°	174050	173204	172193
10°	170180	167544	165586
15°	159877	155183	153017
20°	141041	138268	135330
25°	113475	113560	109766
30°	71189	78259	67990
35°	19561	36248	19454
40°	3389	8321	2403
45°	712	2137	589
50°	527	527	527
55°	439	439	439
60°	329	329	329
65°	206	390	206
70°	255	255	255
75°	337	337	337
80°	502	502	502
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 2137 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.7	13.4
10°-20°	432.2	34.6
20°-30°	472.1	37.8
30°-40°	162.6	13.0
40°-50°	9.5	0.8
50°-60°	2.1	0.2
60°-70°	1.4	0.1
70°-80°	1.0	0.1
80°-90°	0.2	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°	1072.0	85.9
0°-40°	1234.5	98.9
0°-60°	1246.1	99.8
0°-90°	1248.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1248.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1792	1792	1792	1792	1792	
5°	1790	1788	1781	1779	1771	169
15°	1594	1575	1547	1535	1526	442
25°	1062	1067	1062	1043	1027	475
35°	165	190	306	187	164	133
45°	5	6	16	5	4	6
55°	3	3	3	3	3	2
65°	1	2	2	2	1	1
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1791.5	1791.5	1791.5	1791.5	1791.5
2.5°	1795.8	1792.4	1794.1	1793.2	1789.8
5°	1789.8	1788.0	1781.1	1779.4	1770.7
7.5°	1769.8	1767.2	1755.1	1745.6	1737.8
10°	1730.0	1718.8	1703.2	1686.7	1683.3
12.5°	1674.6	1659.0	1631.3	1614.0	1614.0
15°	1594.1	1575.0	1547.3	1535.2	1525.7
17.5°	1490.2	1479.8	1456.4	1435.6	1427.8
20°	1368.1	1367.2	1341.2	1323.0	1312.7
22.5°	1227.8	1226.1	1221.7	1198.4	1179.3
25°	1061.6	1066.8	1062.4	1043.4	1026.9
27.5°	892.7	897.9	894.4	869.3	862.4
30°	636.4	690.1	699.6	664.1	607.8
32.5°	318.6	412.2	496.1	400.9	316.9
35°	165.4	189.6	306.5	187.0	164.5
37.5°	77.9	92.6	175.8	90.9	76.2
40°	26.8	39.0	65.8	39.0	19.0
42.5°	6.9	13.9	33.8	10.4	7.8
45°	5.2	6.1	15.6	5.2	4.3
47.5°	3.5	3.5	6.9	3.5	3.5
50°	3.5	2.6	3.5	2.6	3.5
52.5°	2.6	2.6	2.6	2.6	2.6
55°	2.6	2.6	2.6	2.6	2.6
57.5°	1.7	1.7	1.7	1.7	1.7
60°	1.7	1.7	1.7	1.7	1.7
62.5°	1.7	1.7	1.7	1.7	1.7
65°	0.9	1.7	1.7	1.7	0.9
67.5°	0.9	0.9	1.7	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.9	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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