

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: P886946

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDSL-1020LM-3000K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886946
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-3000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3000K CCT
Ballast/Driver: -

Summary

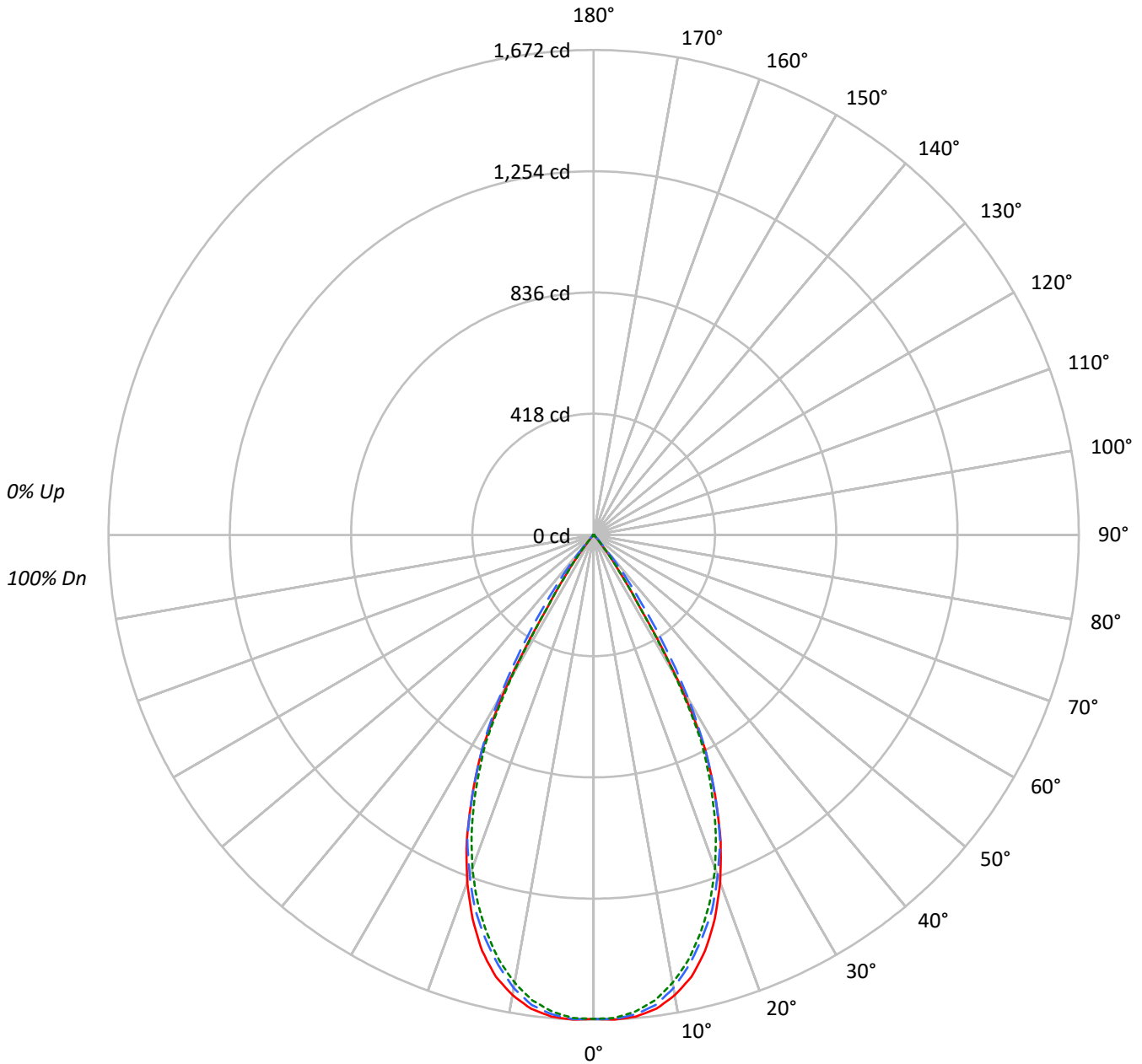
Lumens per Lamp: N/A
Luminaire Lumens: 1162.8 lumens
Efficiency: N/A
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 0.87 / 0.85 / 0.82
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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					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	100	100	100	100		
	1	114	112	109	107	112	109	107	105	105	104	102	102	100	99	98	97	96	95	95	95	95	95	95		
	2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	89	89	89	89	89		
	3	104	99	94	91	102	97	93	90	95	91	88	92	89	87	90	88	86	84	84	84	84	84	84		
	4	100	93	88	84	98	92	87	84	90	86	83	88	85	82	86	83	81	80	80	80	80	80	80		
	5	95	88	83	79	94	87	82	79	85	81	78	84	80	77	82	79	77	75	75	75	75	75	75		
	6	91	83	78	74	90	83	78	74	81	77	73	80	76	73	79	75	72	71	71	71	71	71	71		
	7	87	79	74	70	86	78	73	70	77	73	69	76	72	69	75	71	69	67	67	67	67	67	67		
	8	84	75	70	66	83	75	69	66	74	69	66	73	68	65	72	68	65	64	64	64	64	64	64		
	9	80	71	66	63	79	71	66	62	70	65	62	69	65	62	68	65	62	61	61	61	61	61	61		
	10	77	68	63	59	76	68	63	59	67	62	59	66	62	59	66	62	59	58	58	58	58	58	58		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	161627	161627	161627
5°	162089	161311	160368
10°	158494	156034	154205
15°	148895	144522	142506
20°	131350	128773	126031
25°	105672	105757	102230
30°	66301	72889	63325
35°	18213	33764	18118
40°	3162	7752	2238
45°	658	1987	548
50°	482	482	482
55°	405	405	405
60°	310	310	310
65°	183	367	183
70°	227	227	227
75°	299	299	299
80°	446	446	446
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1987 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.2	13.4
10°-20°	402.5	34.6
20°-30°	439.6	37.8
30°-40°	151.4	13.0
40°-50°	8.8	0.8
50°-60°	1.9	0.2
60°-70°	1.3	0.1
70°-80°	0.8	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°	998.4	85.9
0°-40°	1149.8	98.9
0°-60°	1160.5	99.8
0°-90°	1162.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1162.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1668	1668	1668	1668	1668	
5°	1667	1665	1659	1657	1649	157
15°	1485	1467	1441	1430	1421	411
25°	989	994	989	972	956	442
35°	154	177	286	174	153	124
45°	5	6	14	5	4	5
55°	2	2	2	2	2	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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1668.4	1668.4	1668.4	1668.4	1668.4
2.5°	1672.5	1669.2	1670.9	1670.0	1666.8
5°	1666.8	1665.2	1658.8	1657.1	1649.1
7.5°	1648.3	1645.9	1634.6	1625.7	1618.4
10°	1611.2	1600.7	1586.2	1570.9	1567.6
12.5°	1559.6	1545.1	1519.3	1503.1	1503.1
15°	1484.6	1466.8	1441.0	1429.7	1420.9
17.5°	1387.8	1378.1	1356.4	1337.0	1329.7
20°	1274.1	1273.3	1249.1	1232.2	1222.5
22.5°	1143.5	1141.9	1137.8	1116.1	1098.3
25°	988.6	993.5	989.4	971.7	956.4
27.5°	831.4	836.2	833.0	809.6	803.2
30°	592.7	642.7	651.6	618.5	566.1
32.5°	296.8	383.8	462.1	373.4	295.1
35°	154.0	176.6	285.5	174.2	153.2
37.5°	72.6	86.3	163.7	84.7	71.0
40°	25.0	36.3	61.3	36.3	17.7
42.5°	6.5	12.9	31.4	9.7	7.3
45°	4.8	5.6	14.5	4.8	4.0
47.5°	3.2	3.2	6.5	3.2	3.2
50°	3.2	2.4	3.2	2.4	3.2
52.5°	2.4	2.4	2.4	2.4	2.4
55°	2.4	2.4	2.4	2.4	2.4
57.5°	1.6	1.6	1.6	1.6	1.6
60°	1.6	1.6	1.6	1.6	1.6
62.5°	1.6	1.6	1.6	1.6	1.6
65°	0.8	1.6	1.6	1.6	0.8
67.5°	0.8	0.8	1.6	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.8	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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