

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: P886944

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-5000K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886944
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-54)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/10/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-5000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1323.2 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.88 / 0.83
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

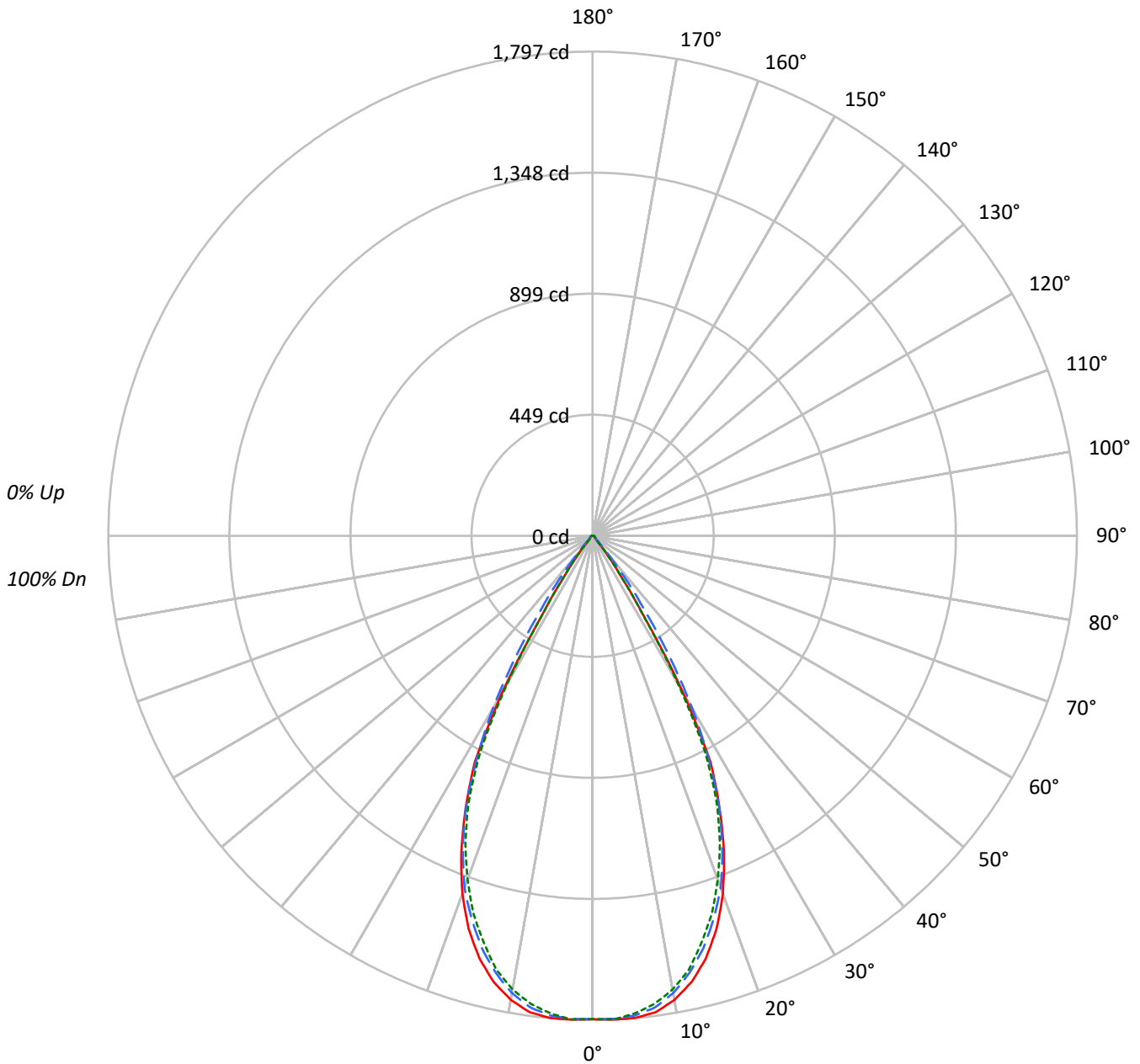
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94																			
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88																			
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83																			
4	99	92	87	83	97	91	86	82	89	85	81	87	83	81	85	82	80	78																			
5	95	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74																			
6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70																			
7	86	78	72	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66																			
8	83	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	64	62																			
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59																			
10	76	67	61	58	75	66	61	58	66	61	58	65	61	57	64	60	57	56																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	173765	173765	173765
5°	174702	173807	173097
10°	172049	169541	168193
15°	162795	159044	156667
20°	145618	143371	139886
25°	119108	118819	116286
30°	74467	82621	70898
35°	21027	39252	21784
40°	4616	10496	3693
45°	2000	3617	1877
50°	1929	2065	1929
55°	1841	2010	1841
60°	1938	1938	1938
65°	1880	2086	1880
70°	1813	2068	1813
75°	2059	2059	2059
80°	2008	2008	2008
85°	2001	2001	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3617 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.8	12.8
10°-20°	442.1	33.4
20°-30°	492.6	37.2
30°-40°	175.9	13.3
40°-50°	17.4	1.3
50°-60°	10.3	0.8
60°-70°	8.5	0.6
70°-80°	5.7	0.4
80°-90°	2.0	0.1
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°	1103.4	83.4
0°-40°	1279.4	96.7
0°-60°	1307.1	98.8
0°-90°	1323.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1323.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1794	1794	1794	1794	1794	
5°	1796	1796	1787	1786	1780	170
15°	1623	1611	1586	1564	1562	451
25°	1114	1121	1112	1087	1088	497
35°	178	205	332	202	184	145
45°	15	16	26	15	14	13
55°	11	12	12	12	11	10
65°	8	9	9	8	8	8
75°	6	6	6	6	6	5
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1793.7	1793.7	1793.7	1793.7	1793.7
2.5°	1797.4	1798.3	1794.6	1794.6	1796.5
5°	1796.5	1796.5	1787.3	1786.4	1780.0
7.5°	1783.7	1779.1	1766.4	1756.3	1752.7
10°	1749.0	1740.8	1723.5	1707.1	1709.8
12.5°	1696.1	1686.1	1661.5	1646.9	1649.6
15°	1623.2	1611.3	1585.8	1563.9	1562.1
17.5°	1529.3	1516.5	1491.9	1476.4	1470.0
20°	1412.5	1407.1	1390.7	1362.4	1356.9
22.5°	1273.9	1273.9	1257.5	1240.2	1233.8
25°	1114.3	1120.7	1111.6	1087.0	1087.9
27.5°	947.5	942.9	930.1	913.7	901.9
30°	665.7	732.3	738.6	703.1	633.8
32.5°	346.5	453.2	523.4	424.0	342.9
35°	177.8	205.2	331.9	201.5	184.2
37.5°	92.1	105.8	196.1	104.9	90.3
40°	36.5	49.2	83.0	48.3	29.2
42.5°	16.4	22.8	46.5	20.1	16.4
45°	14.6	15.5	26.4	14.6	13.7
47.5°	13.7	13.7	17.3	13.7	12.8
50°	12.8	12.8	13.7	12.8	12.8
52.5°	11.9	11.9	12.8	11.9	11.9
55°	10.9	11.9	11.9	11.9	10.9
57.5°	10.0	10.9	10.9	10.9	10.0
60°	10.0	10.0	10.0	10.0	10.0
62.5°	9.1	9.1	9.1	9.1	9.1
65°	8.2	9.1	9.1	8.2	8.2
67.5°	7.3	8.2	8.2	8.2	7.3
70°	6.4	7.3	7.3	7.3	6.4
72.5°	5.5	6.4	6.4	6.4	5.5
75°	5.5	5.5	5.5	5.5	5.5
77.5°	4.6	4.6	4.6	4.6	4.6
80°	3.6	3.6	3.6	3.6	3.6
82.5°	2.7	2.7	2.7	2.7	2.7
85°	1.8	1.8	1.8	1.8	1.8
87.5°	0.9	0.9	0.9	0.9	0.9
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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