

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: P886943

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-4000K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886943
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-4000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 4000K CCT
Ballast/Driver: -

Summary

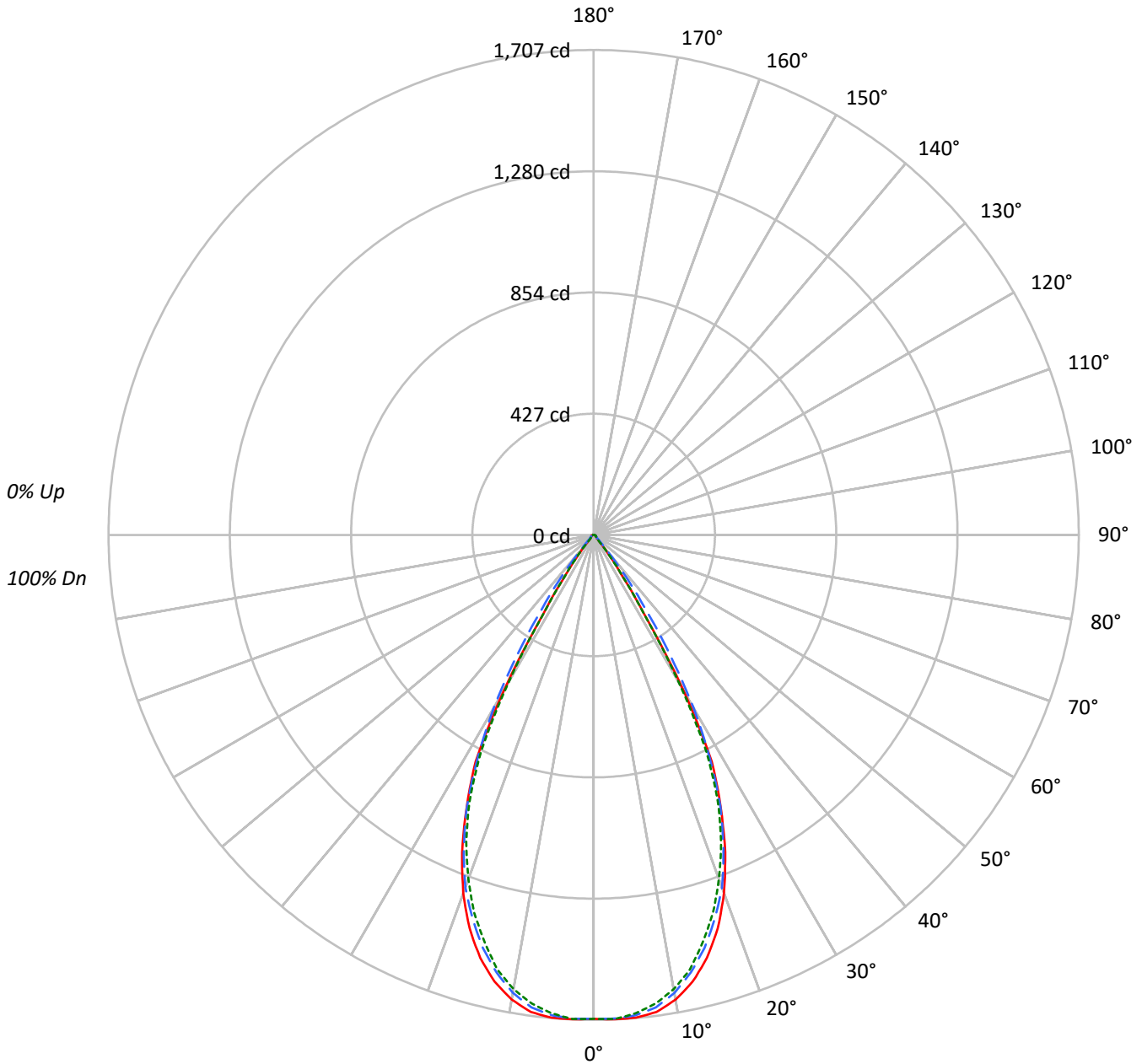
Lumens per Lamp: N/A
Luminaire Lumens: 1256.4 lumens
Efficiency: N/A
Efficacy: 71.4 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.88 / 0.83
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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	60	57	64	60	57	56																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	164989	164989	164989
5°	165872	165035	164364
10°	163363	160982	159704
15°	154571	151011	148754
20°	138268	136124	132825
25°	113101	112823	110418
30°	70708	78449	67319
35°	19963	37277	20684
40°	4376	9965	3503
45°	1904	3439	1781
50°	1824	1959	1824
55°	1757	1909	1757
60°	1841	1841	1841
65°	1788	1994	1788
70°	1728	1954	1728
75°	1946	1946	1946
80°	1953	1953	1953
85°	1890	1890	1890

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3439 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.3	12.8
10°-20°	419.7	33.4
20°-30°	467.7	37.2
30°-40°	167.1	13.3
40°-50°	16.5	1.3
50°-60°	9.8	0.8
60°-70°	8.1	0.6
70°-80°	5.4	0.4
80°-90°	1.9	0.2
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°	1047.7	83.4
0°-40°	1214.8	96.7
0°-60°	1241.1	98.8
0°-90°	1256.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1256.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1703	1703	1703	1703	1703	
5°	1706	1706	1697	1696	1690	161
15°	1541	1530	1506	1485	1483	428
25°	1058	1064	1056	1032	1033	472
35°	169	195	315	191	175	137
45°	14	15	25	14	13	13
55°	10	11	11	11	10	9
65°	8	9	9	8	8	8
75°	5	5	5	5	5	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°	1703.1	1703.1	1703.1	1703.1	1703.1
2.5°	1706.6	1707.5	1704.0	1704.0	1705.7
5°	1705.7	1705.7	1697.1	1696.2	1690.2
7.5°	1693.6	1689.3	1677.2	1667.6	1664.2
10°	1660.7	1652.9	1636.5	1620.9	1623.5
12.5°	1610.5	1601.0	1577.6	1563.7	1566.3
15°	1541.2	1530.0	1505.7	1485.0	1483.2
17.5°	1452.0	1439.9	1416.5	1401.8	1395.8
20°	1341.2	1336.0	1320.4	1293.6	1288.4
22.5°	1209.6	1209.6	1194.0	1177.6	1171.5
25°	1058.1	1064.1	1055.5	1032.1	1033.0
27.5°	899.6	895.3	883.2	867.6	856.3
30°	632.1	695.3	701.3	667.6	601.8
32.5°	329.0	430.3	497.0	402.6	325.6
35°	168.8	194.8	315.2	191.4	174.9
37.5°	87.5	100.4	186.2	99.6	85.7
40°	34.6	46.8	78.8	45.9	27.7
42.5°	15.6	21.6	44.2	19.0	15.6
45°	13.9	14.7	25.1	13.9	13.0
47.5°	13.0	13.0	16.5	13.0	12.1
50°	12.1	12.1	13.0	12.1	12.1
52.5°	11.3	11.3	12.1	11.3	11.3
55°	10.4	11.3	11.3	11.3	10.4
57.5°	9.5	10.4	10.4	10.4	9.5
60°	9.5	9.5	9.5	9.5	9.5
62.5°	8.7	8.7	8.7	8.7	8.7
65°	7.8	8.7	8.7	7.8	7.8
67.5°	6.9	7.8	7.8	7.8	6.9
70°	6.1	6.9	6.9	6.9	6.1
72.5°	5.2	6.1	6.1	6.1	5.2
75°	5.2	5.2	5.2	5.2	5.2
77.5°	4.3	4.3	4.3	4.3	4.3
80°	3.5	3.5	3.5	3.5	3.5
82.5°	2.6	2.6	2.6	2.6	2.6
85°	1.7	1.7	1.7	1.7	1.7
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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