

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: P886940

Luminaire Tested: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-2700K

Issue Date: 7/10/2024

Test Information

Test Method: LM-79-2019
Report Number: P886940
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-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT
Ballast/Driver: -

Summary

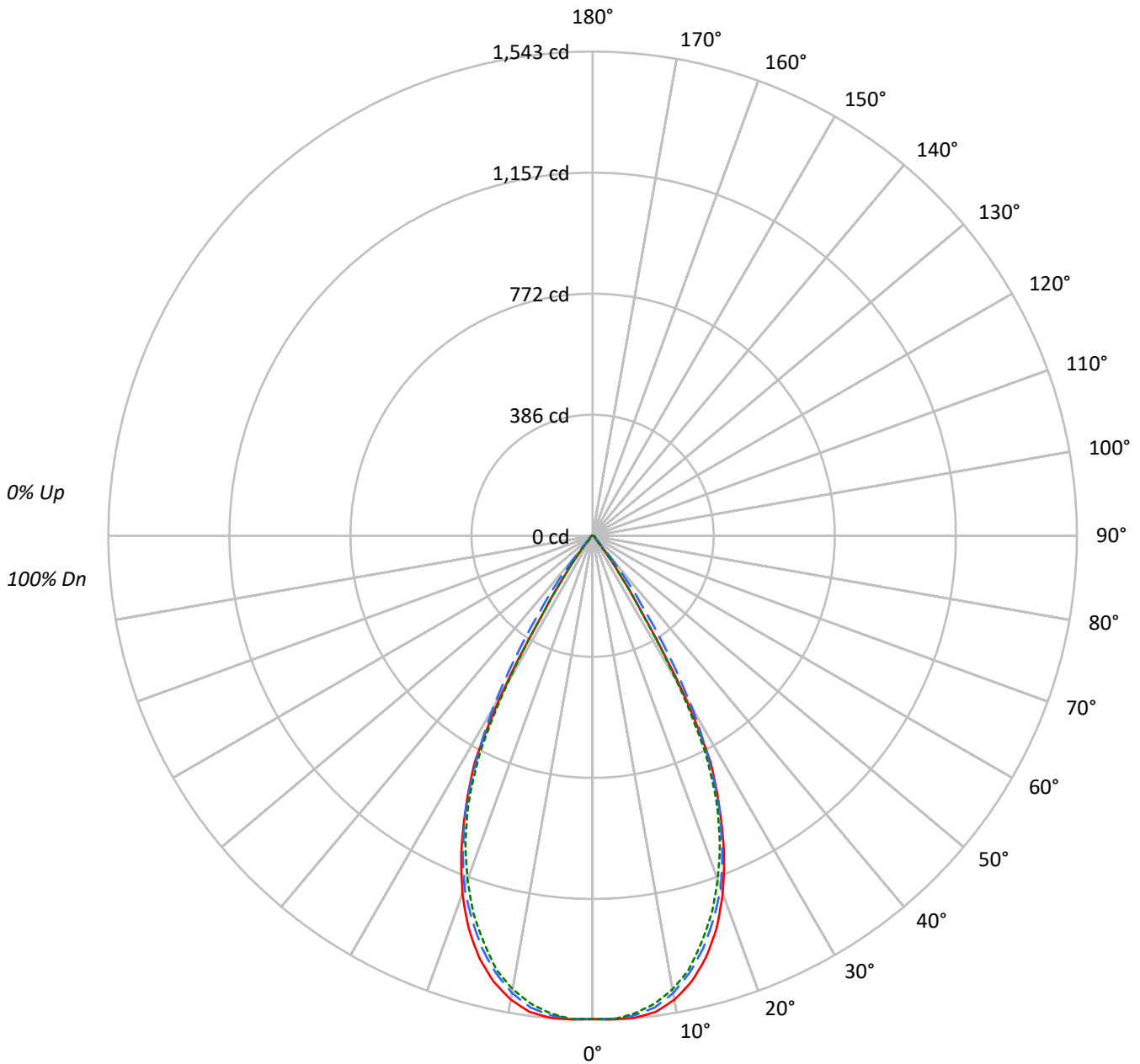
Lumens per Lamp: N/A
Luminaire Lumens: 1135.8 lumens
Efficiency: N/A
Efficacy: 64.5 lumens/watt
Spacing Criteria (0/90/45): 0.89 / 0.88 / 0.83
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P886940
CATALOG NUMBER: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P886940

CATALOG NUMBER: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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			
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94					94			
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88					88			
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83					83			
4	99	92	87	83	97	91	86	82	89	85	81	87	83	81	85	82	80	78					78			
5	95	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74					74			
6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70					70			
7	86	78	72	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66					66			
8	83	74	68	64	81	73	68	64	72	67	64	71	67	64	70	66	64	62					62			
9	79	70	65	61	78	70	64	61	69	64	61	68	64	60	67	63	60	59					59			
10	76	67	61	58	75	66	61	58	66	61	58	65	61	57	64	60	57	56					56			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	149149	149149	149149
5°	149953	149184	148581
10°	147683	145528	144368
15°	139738	136519	134473
20°	124990	123062	120072
25°	102240	101984	99814
30°	63918	70921	60853
35°	18047	33693	18697
40°	3958	9004	3162
45°	1713	3110	1603
50°	1658	1763	1658
55°	1588	1723	1588
60°	1666	1666	1666
65°	1605	1788	1605
70°	1558	1784	1558
75°	1759	1759	1759
80°	1729	1729	1729
85°	1778	1778	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 3110 cd/sqm



TEST NUMBER: P886940

CATALOG NUMBER: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.9	12.8
10°-20°	379.4	33.4
20°-30°	422.8	37.2
30°-40°	151.0	13.3
40°-50°	14.9	1.3
50°-60°	8.8	0.8
60°-70°	7.3	0.6
70°-80°	4.9	0.4
80°-90°	1.7	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°	947.1	83.4
0°-40°	1098.1	96.7
0°-60°	1121.9	98.8
0°-90°	1135.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1135.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1540	1540	1540	1540	1540	
5°	1542	1542	1534	1533	1528	146
15°	1393	1383	1361	1342	1341	387
25°	956	962	954	933	934	426
35°	153	176	285	173	158	124
45°	12	13	23	12	12	11
55°	9	10	10	10	9	8
65°	7	8	8	7	7	7
75°	5	5	5	5	5	5
85°	2	2	2	2	2	2
90°	0	0	0	0	0	



TEST NUMBER: P886940

CATALOG NUMBER: ML412LSFL95FS1E-TIR4D55WFL-TL4SDMW-1020LM-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1539.6	1539.6	1539.6	1539.6	1539.6
2.5°	1542.8	1543.5	1540.4	1540.4	1542.0
5°	1542.0	1542.0	1534.1	1533.4	1527.9
7.5°	1531.0	1527.1	1516.1	1507.5	1504.4
10°	1501.3	1494.2	1479.4	1465.3	1467.6
12.5°	1455.9	1447.3	1426.1	1413.6	1416.0
15°	1393.3	1383.1	1361.2	1342.4	1340.8
17.5°	1312.6	1301.7	1280.5	1267.2	1261.8
20°	1212.4	1207.7	1193.7	1169.4	1164.7
22.5°	1093.5	1093.5	1079.4	1064.5	1059.0
25°	956.5	962.0	954.1	933.0	933.8
27.5°	813.3	809.3	798.4	784.3	774.1
30°	571.4	628.5	634.0	603.5	544.0
32.5°	297.4	389.0	449.3	364.0	294.3
35°	152.6	176.1	284.9	173.0	158.1
37.5°	79.1	90.8	168.3	90.0	77.5
40°	31.3	42.3	71.2	41.5	25.0
42.5°	14.1	19.6	39.9	17.2	14.1
45°	12.5	13.3	22.7	12.5	11.7
47.5°	11.7	11.7	14.9	11.7	11.0
50°	11.0	11.0	11.7	11.0	11.0
52.5°	10.2	10.2	11.0	10.2	10.2
55°	9.4	10.2	10.2	10.2	9.4
57.5°	8.6	9.4	9.4	9.4	8.6
60°	8.6	8.6	8.6	8.6	8.6
62.5°	7.8	7.8	7.8	7.8	7.8
65°	7.0	7.8	7.8	7.0	7.0
67.5°	6.3	7.0	7.0	7.0	6.3
70°	5.5	6.3	6.3	6.3	5.5
72.5°	4.7	5.5	5.5	5.5	4.7
75°	4.7	4.7	4.7	4.7	4.7
77.5°	3.9	3.9	3.9	3.9	3.9
80°	3.1	3.1	3.1	3.1	3.1
82.5°	2.3	2.3	2.3	2.3	2.3
85°	1.6	1.6	1.6	1.6	1.6
87.5°	0.8	0.8	0.8	0.8	0.8
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



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)