

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: P886910

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDMW-1020LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886910
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-51)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D40FL-TL4SDMW-1020LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1200.0 lumens
Efficiency: N/A
Efficacy: 68.2 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.65
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

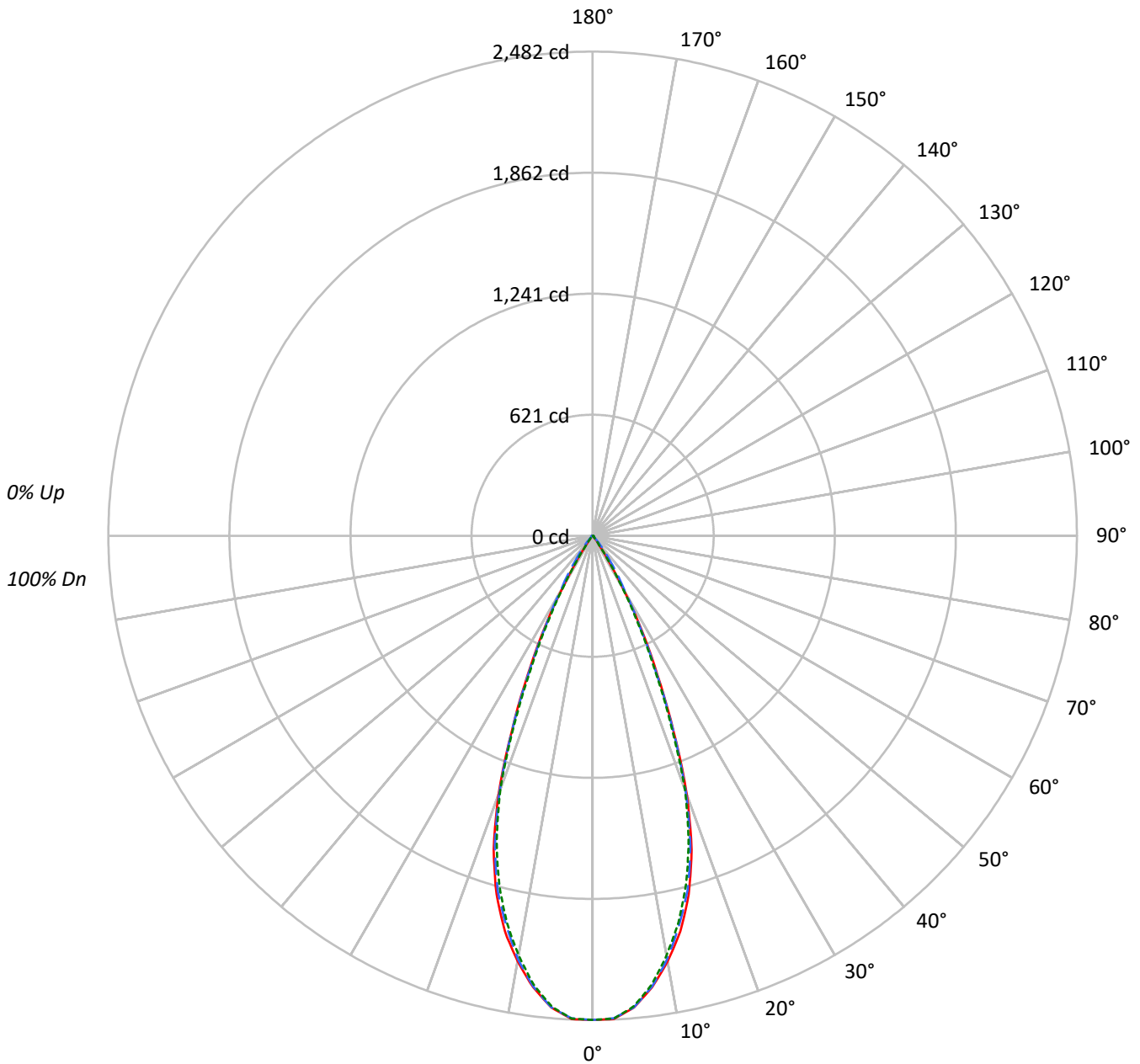
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				100															
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95				95															
2	110	105	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90				90															
3	105	100	96	92	103	99	95	92	96	93	90	94	91	89	91	89	87	86				86															
4	101	95	90	87	100	94	89	86	92	88	85	90	87	84	88	85	83	82				82															
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	78				78															
6	94	86	81	78	92	85	81	77	84	80	77	83	79	76	82	78	76	75				75															
7	90	82	77	74	89	82	77	74	81	76	73	79	76	73	78	75	73	71				71															
8	87	79	74	71	86	78	74	70	77	73	70	76	73	70	76	72	70	68				68															
9	84	76	71	67	83	75	71	67	74	70	67	74	70	67	73	69	67	66				66															
10	81	73	68	65	80	72	68	65	72	67	64	71	67	64	70	67	64	63				63															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	240445	240445	240445
5°	236034	235956	235422
10°	217830	216748	214751
15°	190857	188581	185592
20°	145598	143825	142618
25°	83802	82049	79035
30°	34487	37988	32384
35°	7119	17858	6753
40°	2074	6930	2276
45°	1288	2247	1288
50°	1176	1417	1176
55°	1317	1317	1182
60°	1221	1356	1221
65°	1261	1261	1261
70°	1331	1331	1331
75°	1160	1460	1160
80°	1283	1283	1283
85°	1778	1778	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 2247 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.2	18.7
10°-20°	512.1	42.7
20°-30°	358.1	29.8
30°-40°	77.1	6.4
40°-50°	10.8	0.9
50°-60°	6.8	0.6
60°-70°	5.6	0.5
70°-80°	3.7	0.3
80°-90°	1.4	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°	1094.5	91.2
0°-40°	1171.6	97.6
0°-60°	1189.2	99.1
0°-90°	1200.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1200.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2482	2482	2482	2482	2482	
5°	2427	2429	2426	2420	2421	225
15°	1903	1892	1880	1854	1850	519
25°	784	774	768	755	739	364
35°	60	96	151	87	57	59
45°	9	10	16	10	9	8
55°	8	8	8	8	7	7
65°	6	6	6	6	6	5
75°	3	4	4	4	3	4
85°	2	2	2	2	2	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2482.0	2482.0	2482.0	2482.0	2482.0
2.5°	2479.6	2478.1	2475.7	2475.7	2477.3
5°	2427.2	2428.8	2426.4	2420.2	2420.9
7.5°	2334.9	2340.4	2330.2	2326.3	2320.0
10°	2214.4	2212.8	2203.4	2190.1	2183.1
12.5°	2077.4	2071.2	2046.1	2033.6	2029.7
15°	1903.0	1892.0	1880.3	1853.7	1850.5
17.5°	1687.0	1681.5	1665.1	1642.4	1634.6
20°	1412.3	1413.1	1395.1	1376.4	1383.4
22.5°	1081.4	1097.0	1075.9	1057.9	1050.1
25°	784.0	773.9	767.6	755.1	739.4
27.5°	543.8	534.4	522.7	516.4	493.0
30°	308.3	341.9	339.6	319.2	289.5
32.5°	146.3	194.8	231.6	175.3	134.6
35°	60.2	95.5	151.0	86.9	57.1
37.5°	29.0	43.8	94.7	43.0	28.2
40°	16.4	23.5	54.8	22.7	18.0
42.5°	11.7	13.3	29.7	13.3	11.7
45°	9.4	10.2	16.4	10.2	9.4
47.5°	8.6	8.6	11.0	8.6	8.6
50°	7.8	8.6	9.4	7.8	7.8
52.5°	7.8	7.8	8.6	7.8	7.8
55°	7.8	7.8	7.8	7.8	7.0
57.5°	7.0	7.0	7.0	7.0	7.0
60°	6.3	7.0	7.0	6.3	6.3
62.5°	6.3	6.3	6.3	6.3	5.5
65°	5.5	5.5	5.5	5.5	5.5
67.5°	4.7	5.5	5.5	5.5	4.7
70°	4.7	4.7	4.7	4.7	4.7
72.5°	3.9	3.9	3.9	3.9	3.9
75°	3.1	3.9	3.9	3.9	3.1
77.5°	3.1	3.1	3.1	3.1	3.1
80°	2.3	2.3	2.3	2.3	2.3
82.5°	1.6	2.3	1.6	1.6	1.6
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



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Scaled Data Report





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

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