

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: P886914

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDMW-1020LM-5000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886914
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-5000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: -

Summary

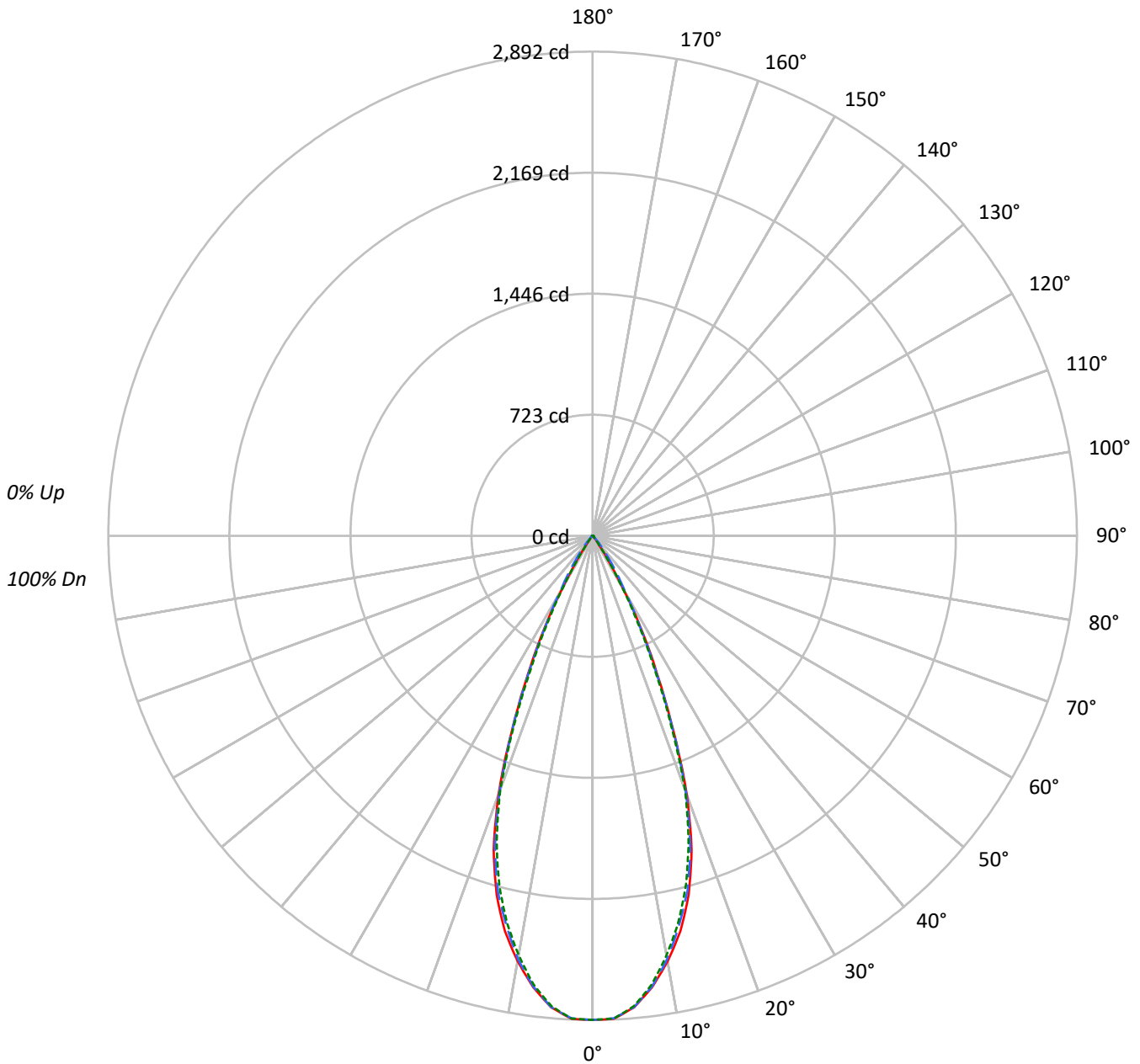
Lumens per Lamp: N/A
Luminaire Lumens: 1398.0 lumens
Efficiency: N/A
Efficacy: 79.4 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.65
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	280125	280125	280125
5°	274991	274903	274281
10°	253775	252525	250194
15°	222349	219701	216221
20°	169629	167567	166154
25°	97634	95592	92086
30°	40181	44253	37731
35°	8302	20802	7864
40°	2415	8068	2656
45°	1493	2617	1493
50°	1371	1643	1371
55°	1537	1537	1385
60°	1414	1589	1414
65°	1467	1467	1467
70°	1558	1558	1558
75°	1347	1722	1347
80°	1506	1506	1506
85°	2001	2001	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 2617 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.3	18.7
10°-20°	596.6	42.7
20°-30°	417.3	29.8
30°-40°	89.8	6.4
40°-50°	12.6	0.9
50°-60°	7.9	0.6
60°-70°	6.5	0.5
70°-80°	4.4	0.3
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°	1275.1	91.2
0°-40°	1364.9	97.6
0°-60°	1385.4	99.1
0°-90°	1398.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1398.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2892	2892	2892	2892	2892	
5°	2828	2830	2827	2820	2820	262
15°	2217	2204	2191	2160	2156	604
25°	913	902	894	880	862	424
35°	70	111	176	101	66	69
45°	11	12	19	12	11	9
55°	9	9	9	9	8	8
65°	6	6	6	6	6	6
75°	4	5	5	5	4	4
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°	2891.6	2891.6	2891.6	2891.6	2891.6
2.5°	2888.9	2887.0	2884.3	2884.3	2886.1
5°	2827.8	2829.6	2826.9	2819.6	2820.5
7.5°	2720.2	2726.6	2714.7	2710.2	2702.9
10°	2579.8	2578.0	2567.1	2551.6	2543.4
12.5°	2420.3	2413.0	2383.8	2369.2	2364.7
15°	2217.0	2204.2	2190.6	2159.6	2155.9
17.5°	1965.4	1959.0	1939.9	1913.4	1904.3
20°	1645.4	1646.3	1625.4	1603.5	1611.7
22.5°	1259.8	1278.1	1253.4	1232.5	1223.4
25°	913.4	901.6	894.3	879.7	861.5
27.5°	633.6	622.6	608.9	601.7	574.3
30°	359.2	398.4	395.6	371.9	337.3
32.5°	170.5	227.0	269.8	204.2	156.8
35°	70.2	111.2	175.9	101.2	66.5
37.5°	33.7	51.0	110.3	50.1	32.8
40°	19.1	27.3	63.8	26.4	21.0
42.5°	13.7	15.5	34.6	15.5	13.7
45°	10.9	11.9	19.1	11.9	10.9
47.5°	10.0	10.0	12.8	10.0	10.0
50°	9.1	10.0	10.9	9.1	9.1
52.5°	9.1	9.1	10.0	9.1	9.1
55°	9.1	9.1	9.1	9.1	8.2
57.5°	8.2	8.2	8.2	8.2	8.2
60°	7.3	8.2	8.2	7.3	7.3
62.5°	7.3	7.3	7.3	7.3	6.4
65°	6.4	6.4	6.4	6.4	6.4
67.5°	5.5	6.4	6.4	6.4	5.5
70°	5.5	5.5	5.5	5.5	5.5
72.5°	4.6	4.6	4.6	4.6	4.6
75°	3.6	4.6	4.6	4.6	3.6
77.5°	3.6	3.6	3.6	3.6	3.6
80°	2.7	2.7	2.7	2.7	2.7
82.5°	1.8	2.7	1.8	1.8	1.8
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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