

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: P886917

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-3500K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886917
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-52)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-3500K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

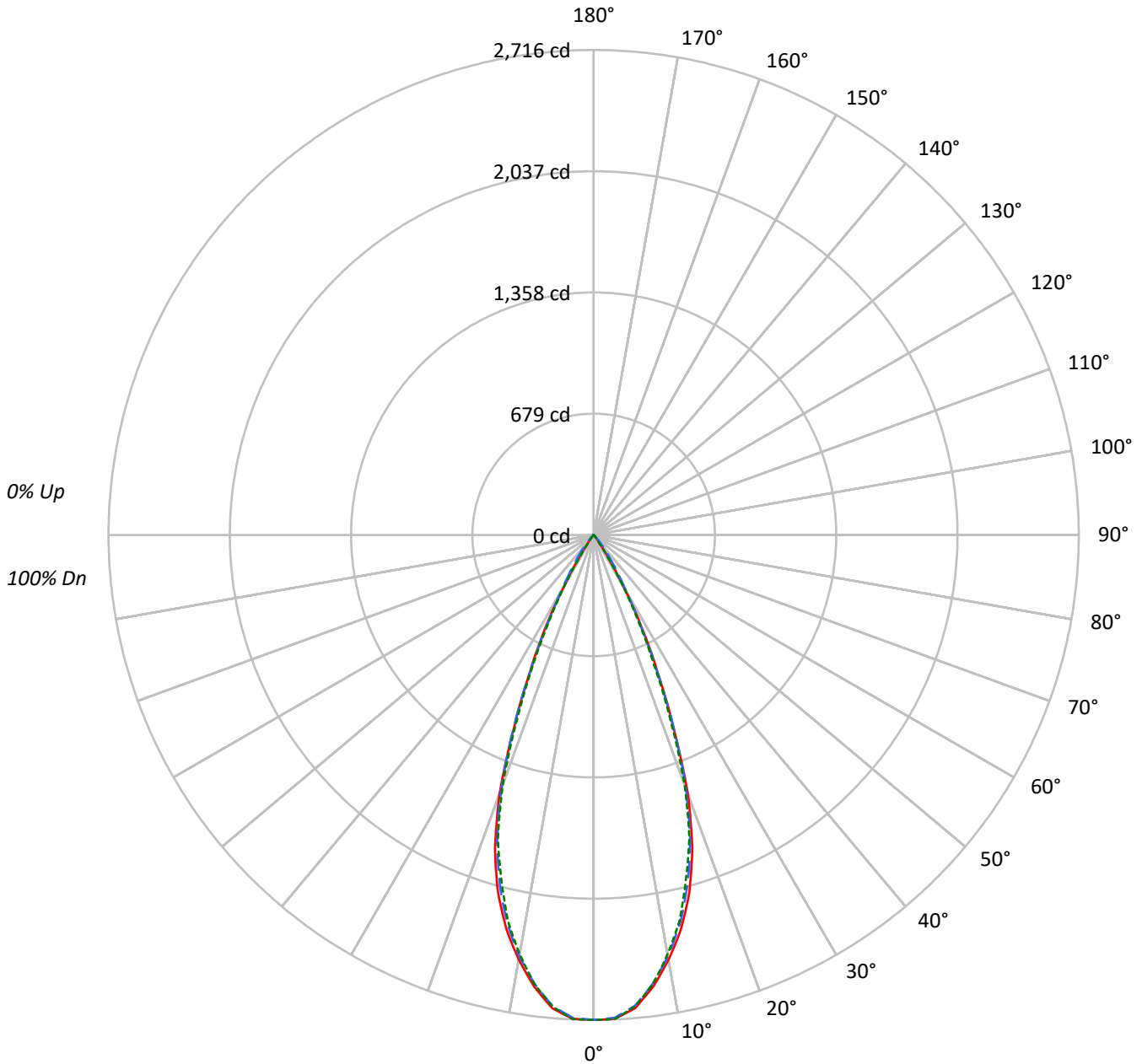
Lumens per Lamp: N/A
Luminaire Lumens: 1277.7 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.64
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	263133	263133	263133
5°	258790	257409	257807
10°	237553	235665	234514
15°	207706	203604	200255
20°	158773	155505	153268
25°	90034	88954	85213
30°	37071	40707	35203
35°	7403	18662	6516
40°	1480	6753	1480
45°	575	1493	452
50°	377	497	377
55°	287	287	287
60°	329	329	155
65°	183	183	183
70°	227	227	227
75°	299	299	299
80°	0	446	446
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1493 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.8	19.2
10°-20°	556.3	43.5
20°-30°	385.8	30.2
30°-40°	80.5	6.3
40°-50°	6.7	0.5
50°-60°	1.7	0.1
60°-70°	0.9	0.1
70°-80°	0.8	0.1
80°-90°	0.1	0.0
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°	1186.9	92.9
0°-40°	1267.5	99.2
0°-60°	1275.8	99.9
0°-90°	1277.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1277.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2716	2716	2716	2716	2716	
5°	2661	2654	2647	2648	2651	246
15°	2071	2062	2030	2010	1997	565
25°	842	842	832	812	797	392
35°	63	98	158	90	55	62
45°	4	4	11	4	3	4
55°	2	2	2	2	2	2
65°	1	1	1	1	1	1
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2716.2	2716.2	2716.2	2716.2	2716.2
2.5°	2712.1	2711.2	2706.2	2708.7	2713.7
5°	2661.2	2654.5	2647.0	2647.8	2651.1
7.5°	2551.0	2555.1	2535.1	2539.3	2536.8
10°	2414.9	2406.6	2395.7	2391.5	2384.0
12.5°	2260.5	2250.5	2231.3	2213.7	2216.2
15°	2071.0	2061.8	2030.1	2010.1	1996.7
17.5°	1837.3	1826.4	1798.0	1790.5	1781.3
20°	1540.1	1532.6	1508.4	1487.5	1486.7
22.5°	1163.6	1177.8	1176.1	1141.9	1128.6
25°	842.3	842.3	832.2	812.2	797.2
27.5°	582.6	570.1	551.8	545.9	531.7
30°	331.4	356.4	363.9	345.6	314.7
32.5°	156.1	207.0	242.9	194.5	136.9
35°	62.6	97.7	157.8	90.2	55.1
37.5°	27.5	42.6	98.5	39.2	25.9
40°	11.7	19.2	53.4	18.4	11.7
42.5°	6.7	9.2	25.9	8.3	5.8
45°	4.2	4.2	10.9	4.2	3.3
47.5°	2.5	3.3	5.0	2.5	2.5
50°	2.5	2.5	3.3	2.5	2.5
52.5°	1.7	1.7	2.5	1.7	1.7
55°	1.7	1.7	1.7	1.7	1.7
57.5°	1.7	1.7	1.7	1.7	1.7
60°	1.7	1.7	1.7	1.7	0.8
62.5°	0.8	0.8	1.7	0.8	0.8
65°	0.8	0.8	0.8	0.8	0.8
67.5°	0.8	0.8	0.8	0.8	0.8
70°	0.8	0.8	0.8	0.8	0.8
72.5°	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8
80°	0.0	0.8	0.8	0.8	0.8
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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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