

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: P886916

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-3000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886916
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-3000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

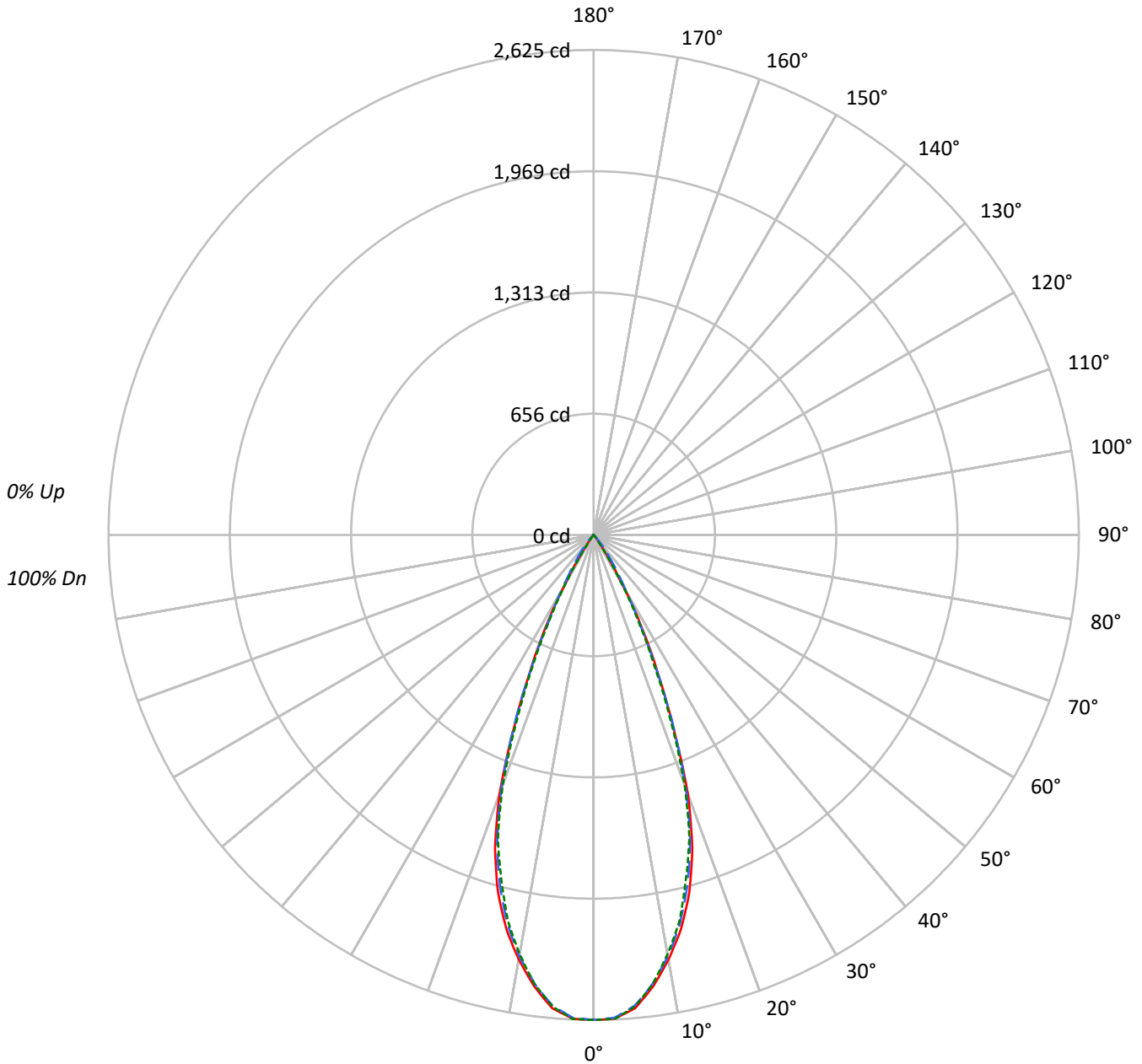
Lumens per Lamp: N/A
Luminaire Lumens: 1234.6 lumens
Efficiency: N/A
Efficacy: 70.1 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.64
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	254269	254269	254269
5°	250057	248725	249123
10°	229546	227716	226605
15°	200706	196734	193505
20°	153423	150258	148093
25°	86998	85961	82338
30°	35818	39342	34017
35°	7155	18023	6292
40°	1429	6525	1429
45°	548	1439	438
50°	362	482	362
55°	270	270	270
60°	310	310	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: 1439 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.6	19.2
10°-20°	537.5	43.5
20°-30°	372.8	30.2
30°-40°	77.8	6.3
40°-50°	6.5	0.5
50°-60°	1.6	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°	1146.9	92.9
0°-40°	1224.7	99.2
0°-60°	1232.7	99.8
0°-90°	1234.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1234.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2625	2625	2625	2625	2625	
5°	2571	2565	2558	2558	2562	237
15°	2001	1992	1962	1942	1929	546
25°	814	814	804	785	770	378
35°	60	94	152	87	53	60
45°	4	4	10	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	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2624.7	2624.7	2624.7	2624.7	2624.7
2.5°	2620.6	2619.8	2615.0	2617.4	2622.2
5°	2571.4	2565.0	2557.7	2558.5	2561.8
7.5°	2465.0	2469.0	2449.6	2453.7	2451.2
10°	2333.5	2325.4	2314.9	2310.9	2303.6
12.5°	2184.3	2174.6	2156.0	2139.1	2141.5
15°	2001.2	1992.3	1961.6	1942.3	1929.4
17.5°	1775.3	1764.8	1737.4	1730.1	1721.3
20°	1488.2	1480.9	1457.5	1437.4	1436.5
22.5°	1124.4	1138.1	1136.5	1103.4	1090.5
25°	813.9	813.9	804.2	784.8	770.3
27.5°	563.0	550.9	533.2	527.5	513.8
30°	320.2	344.4	351.7	333.9	304.1
32.5°	150.8	200.0	234.7	187.9	132.3
35°	60.5	94.4	152.4	87.1	53.2
37.5°	26.6	41.1	95.2	37.9	25.0
40°	11.3	18.6	51.6	17.7	11.3
42.5°	6.5	8.9	25.0	8.1	5.6
45°	4.0	4.0	10.5	4.0	3.2
47.5°	2.4	3.2	4.8	2.4	2.4
50°	2.4	2.4	3.2	2.4	2.4
52.5°	1.6	1.6	2.4	1.6	1.6
55°	1.6	1.6	1.6	1.6	1.6
57.5°	1.6	1.6	1.6	1.6	1.6
60°	1.6	1.6	1.6	1.6	0.8
62.5°	0.8	0.8	1.6	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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