

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: P886915

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDSL-1020LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886915
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-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

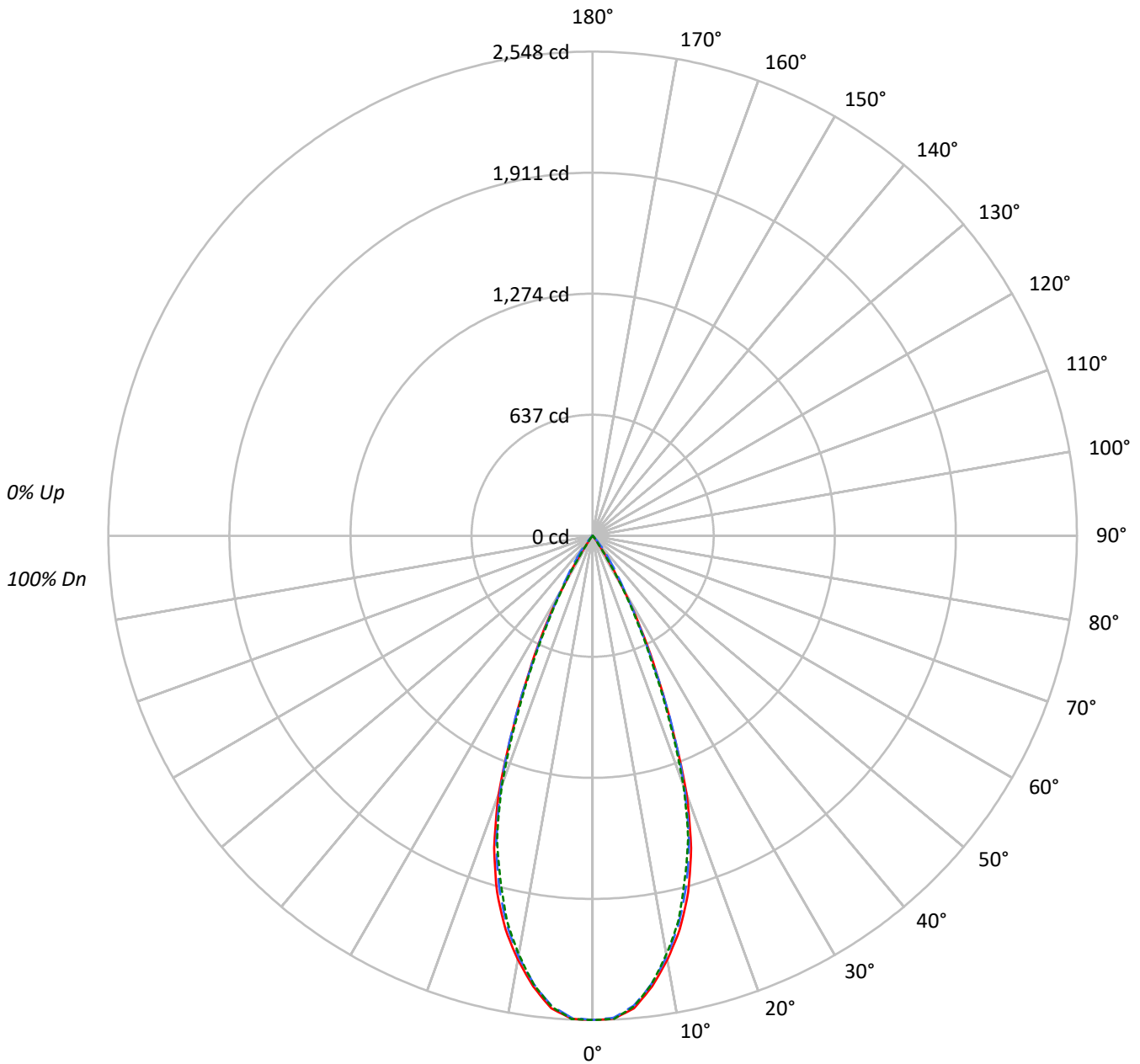
Lumens per Lamp: N/A
Luminaire Lumens: 1198.5 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.64
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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					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	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°	246810	246810	246810
5°	242725	241431	241811
10°	222808	221037	219955
15°	194809	190968	187828
20°	148917	145856	143752
25°	84443	83438	79922
30°	34767	38190	33022
35°	6942	17503	6114
40°	1391	6336	1391
45°	534	1397	425
50°	347	467	347
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: 1397 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	229.6	19.2
10°-20°	521.8	43.5
20°-30°	361.8	30.2
30°-40°	75.5	6.3
40°-50°	6.3	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°	1113.2	92.9
0°-40°	1188.8	99.2
0°-60°	1196.6	99.8
0°-90°	1198.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1198.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2548	2548	2548	2548	2548	
5°	2496	2490	2483	2484	2487	230
15°	1942	1934	1904	1885	1873	530
25°	790	790	781	762	748	367
35°	59	92	148	85	52	58
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°	2547.7	2547.7	2547.7	2547.7	2547.7
2.5°	2543.7	2543.0	2538.3	2540.6	2545.3
5°	2496.0	2489.7	2482.7	2483.5	2486.6
7.5°	2392.6	2396.5	2377.8	2381.7	2379.3
10°	2265.0	2257.2	2247.0	2243.1	2236.0
12.5°	2120.2	2110.8	2092.8	2076.3	2078.7
15°	1942.4	1933.8	1904.1	1885.3	1872.8
17.5°	1723.2	1713.0	1686.4	1679.4	1670.8
20°	1444.5	1437.5	1414.8	1395.2	1394.4
22.5°	1091.4	1104.7	1103.1	1071.0	1058.5
25°	790.0	790.0	780.6	761.8	747.7
27.5°	546.5	534.7	517.5	512.0	498.7
30°	310.8	334.3	341.4	324.1	295.2
32.5°	146.4	194.2	227.8	182.4	128.4
35°	58.7	91.6	148.0	84.6	51.7
37.5°	25.8	39.9	92.4	36.8	24.3
40°	11.0	18.0	50.1	17.2	11.0
42.5°	6.3	8.6	24.3	7.8	5.5
45°	3.9	3.9	10.2	3.9	3.1
47.5°	2.3	3.1	4.7	2.3	2.3
50°	2.3	2.3	3.1	2.3	2.3
52.5°	1.6	1.6	2.3	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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