

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: P886906

Luminaire Tested: ML412LSFL95FS1E-TIR4D40FL-TL4SDMB-1020LM-3000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886906
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-53)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D40FL-TL4SDMB-1020LM-3000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1204.0 lumens
Efficiency: N/A
Efficacy: 68.4 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

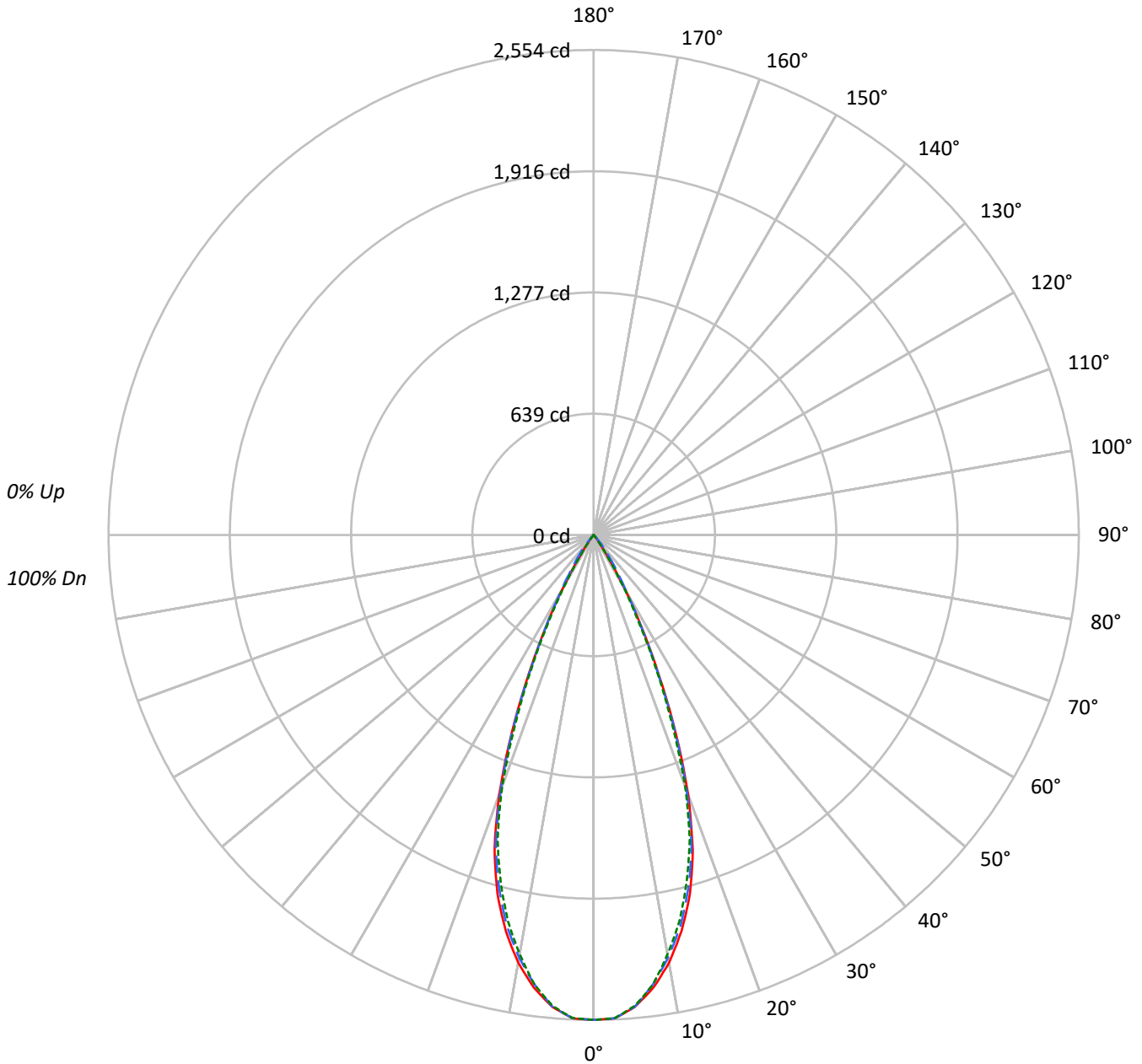
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					70					50					30				
RW	70	50	30	10	70	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	115	112	110	108	112	110	108	106	106	105	103	102	101	100	99	98	97	96		
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91		
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87		
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83		
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79		
6	94	87	82	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76		
7	91	83	79	75	90	83	78	75	82	78	75	81	77	74	80	76	74	73		
8	88	80	75	72	87	79	75	72	79	74	71	78	74	71	77	73	71	70		
9	85	77	72	69	84	76	72	69	76	71	68	75	71	68	74	71	68	67		
10	82	74	69	66	81	73	69	66	73	69	66	72	68	66	71	68	65	64		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	247420	247420	247420
5°	242637	242482	242083
10°	224962	222257	220516
15°	196333	193184	189704
20°	149577	147660	145000
25°	86250	84529	82979
30°	36020	38548	32854
35°	6682	17846	5819
40°	1024	6323	1024
45°	110	1219	110
50°	0	241	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1219 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.4	19.1
10°-20°	526.1	43.7
20°-30°	367.6	30.5
30°-40°	75.1	6.2
40°-50°	4.6	0.4
50°-60°	0.1	0.0
60°-70°	0.0	0.0
70°-80°	0.0	0.0
80°-90°	0.0	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°	1124.1	93.4
0°-40°	1199.3	99.6
0°-60°	1204.0	100.0
0°-90°	1204.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1204.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2554	2554	2554	2554	2554	
5°	2495	2498	2494	2486	2489	231
15°	1958	1954	1926	1904	1892	534
25°	807	812	791	780	776	374
35°	56	93	151	80	49	58
45°	1	2	9	2	1	2
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
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°	2554.0	2554.0	2554.0	2554.0	2554.0
2.5°	2548.3	2546.7	2548.3	2547.5	2546.7
5°	2495.1	2497.5	2493.5	2486.2	2489.4
7.5°	2405.5	2399.0	2387.8	2384.5	2388.6
10°	2286.9	2270.7	2259.4	2255.4	2241.7
12.5°	2136.8	2128.7	2109.4	2091.6	2084.3
15°	1957.6	1954.4	1926.2	1903.6	1891.5
17.5°	1734.9	1720.4	1714.0	1692.2	1681.7
20°	1450.9	1450.9	1432.3	1401.7	1406.5
22.5°	1128.1	1116.0	1120.0	1087.8	1078.1
25°	806.9	811.8	790.8	779.5	776.3
27.5°	543.9	536.6	538.2	517.3	501.9
30°	322.0	344.6	344.6	325.2	293.7
32.5°	150.9	193.7	227.6	180.8	128.3
35°	56.5	92.8	150.9	79.9	49.2
37.5°	21.8	37.9	92.0	32.3	20.2
40°	8.1	15.3	50.0	14.5	8.1
42.5°	3.2	5.6	23.4	4.8	3.2
45°	0.8	1.6	8.9	1.6	0.8
47.5°	0.8	0.8	3.2	0.8	0.0
50°	0.0	0.0	1.6	0.0	0.0
52.5°	0.0	0.0	0.8	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
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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