

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: P886877

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-3500K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886877
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-3500K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1063.2 lumens
Efficiency: N/A
Efficacy: 60.4 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

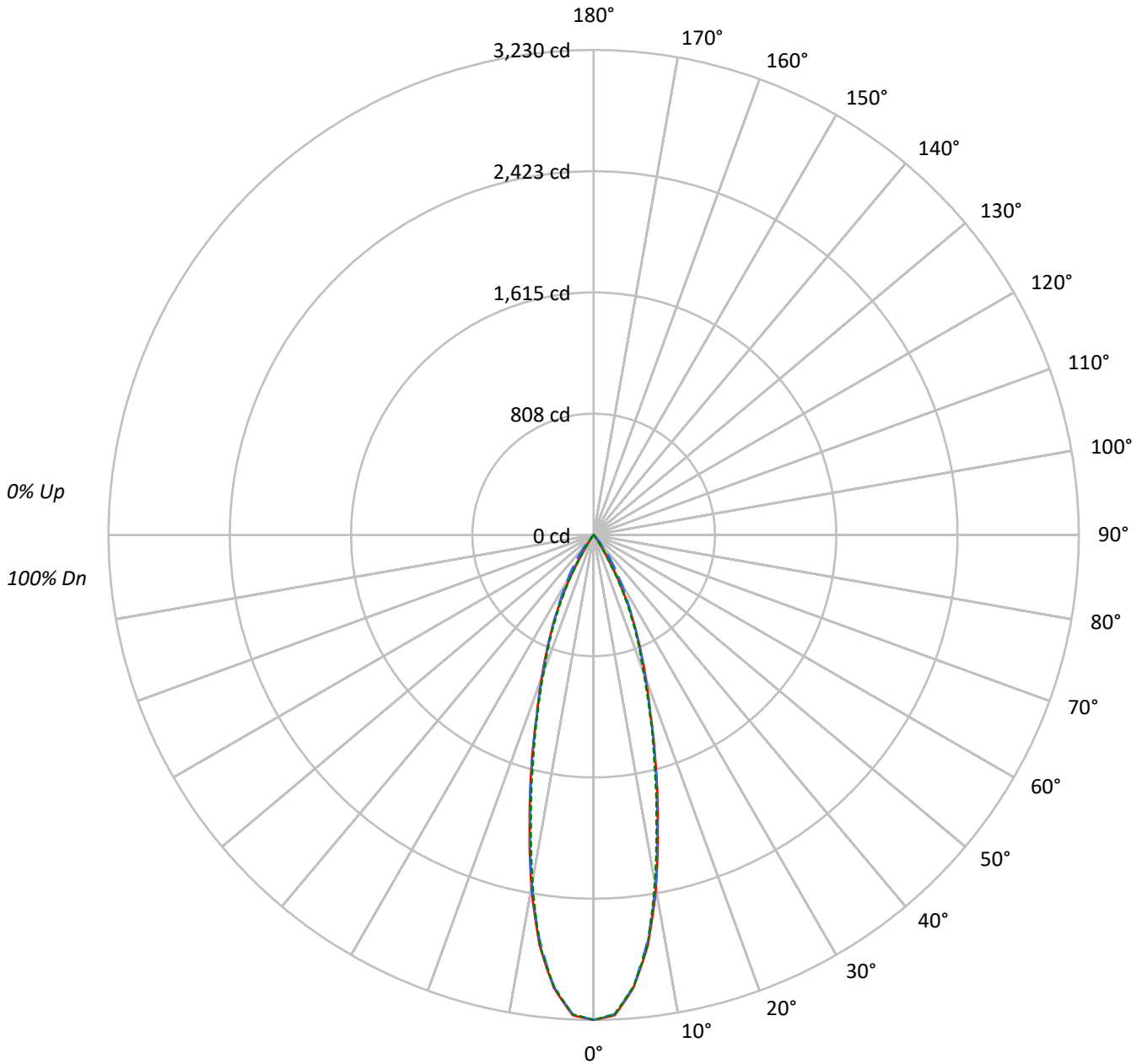
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	115	112	110	108	112	110	108	107	106	105	103	103	101	100	99	98	98	96								
2	110	106	103	101	108	105	102	99	102	99	97	99	97	95	96	95	93	92								
3	106	101	97	94	105	100	96	93	97	94	92	95	93	91	93	91	89	88								
4	103	97	92	89	101	96	92	88	94	90	87	92	89	86	90	88	86	84								
5	99	92	88	85	98	92	87	84	90	86	83	88	85	83	87	84	82	81								
6	95	89	84	81	94	88	83	80	86	83	80	85	82	79	84	81	79	78								
7	92	85	80	77	91	84	80	77	83	79	77	82	79	76	81	78	76	75								
8	89	82	77	74	88	81	77	74	80	76	74	79	76	73	79	75	73	72								
9	86	79	74	71	85	78	74	71	77	74	71	77	73	71	76	73	70	69								
10	83	76	71	68	83	76	71	68	75	71	68	74	71	68	74	70	68	67								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	312859	312859	312859
5°	294644	293915	293837
10°	234956	233481	230933
15°	160569	158894	156547
20°	104093	102629	99783
25°	64989	64722	61601
30°	27742	39610	24945
35°	6516	21630	6126
40°	1062	6551	1062
45°	343	1260	233
50°	0	256	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: 1260 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.5	25.2
10°-20°	438.3	41.2
20°-30°	277.2	26.1
30°-40°	74.9	7.0
40°-50°	5.3	0.5
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°	983.0	92.4
0°-40°	1057.8	99.5
0°-60°	1063.2	100.0
0°-90°	1063.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1063.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3230	3230	3230	3230	3230	
5°	3030	3027	3022	3025	3022	269
15°	1601	1591	1584	1556	1561	443
25°	608	613	606	599	576	274
35°	55	96	183	86	52	49
45°	2	3	9	3	2	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	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3229.5	3229.5	3229.5	3229.5	3229.5
2.5°	3202.8	3200.3	3194.4	3197.8	3196.1
5°	3029.9	3026.6	3022.4	3024.9	3021.6
7.5°	2757.7	2741.8	2734.3	2736.8	2751.8
10°	2388.5	2365.1	2373.5	2339.3	2347.6
12.5°	1970.1	1960.1	1956.8	1950.1	1929.2
15°	1601.0	1591.0	1584.3	1555.9	1560.9
17.5°	1260.2	1270.3	1259.4	1248.5	1240.2
20°	1009.7	1001.3	995.5	982.1	967.9
22.5°	794.2	791.7	785.9	770.8	766.7
25°	608.0	613.0	605.5	598.8	576.3
27.5°	421.8	463.5	468.5	445.1	398.4
30°	248.0	303.2	354.1	293.1	223.0
32.5°	129.4	181.2	263.1	170.4	111.9
35°	55.1	96.0	182.9	86.0	51.8
37.5°	17.5	41.8	103.6	37.6	18.4
40°	8.4	13.4	51.8	14.2	8.4
42.5°	4.2	6.7	25.1	6.7	4.2
45°	2.5	3.3	9.2	3.3	1.7
47.5°	0.8	1.7	3.3	1.7	0.8
50°	0.0	0.8	1.7	0.8	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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