

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: P886878

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-4000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886878
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-4000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

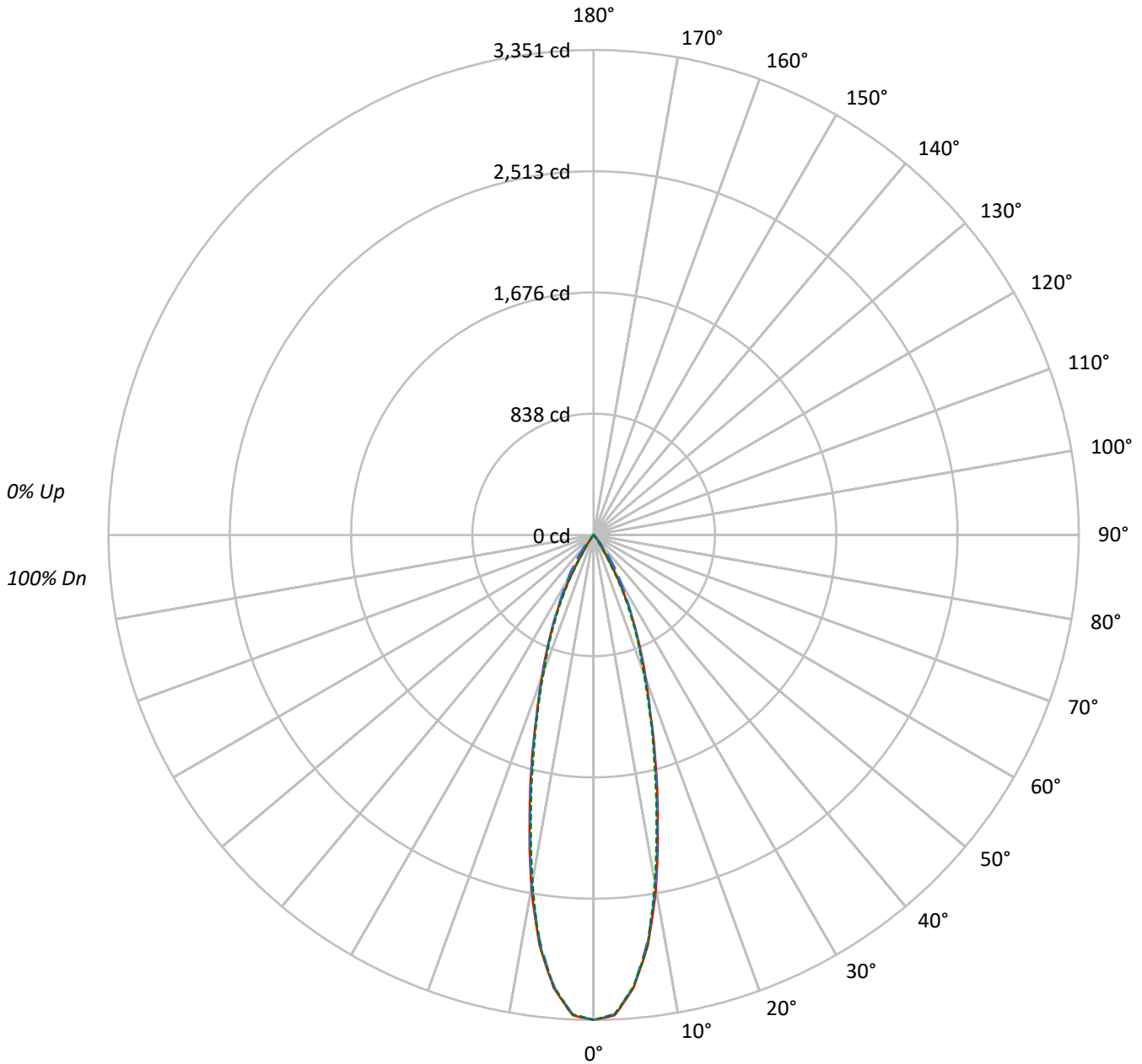
Lumens per Lamp: N/A
Luminaire Lumens: 1103.1 lumens
Efficiency: N/A
Efficacy: 62.7 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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									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°	324610	324610	324610
5°	305711	304952	304865
10°	243780	242246	239609
15°	166596	164861	162424
20°	108000	106484	103536
25°	67426	67148	63910
30°	28793	41098	25885
35°	6765	22446	6351
40°	1100	6791	1100
45°	356	1302	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: 1302 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.5	25.2
10°-20°	454.8	41.2
20°-30°	287.6	26.1
30°-40°	77.7	7.0
40°-50°	5.5	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°	1019.9	92.4
0°-40°	1097.5	99.5
0°-60°	1103.1	100.0
0°-90°	1103.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1103.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3351	3351	3351	3351	3351	
5°	3144	3140	3136	3138	3135	279
15°	1661	1651	1644	1614	1620	459
25°	631	636	628	621	598	284
35°	57	100	190	89	54	51
45°	3	4	10	4	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	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3350.8	3350.8	3350.8	3350.8	3350.8
2.5°	3323.1	3320.5	3314.4	3317.9	3316.1
5°	3143.7	3140.2	3135.9	3138.5	3135.0
7.5°	2861.2	2844.7	2836.9	2839.5	2855.1
10°	2478.2	2453.9	2462.6	2427.1	2435.8
12.5°	2044.1	2033.7	2030.2	2023.3	2001.6
15°	1661.1	1650.7	1643.8	1614.3	1619.5
17.5°	1307.6	1318.0	1306.7	1295.4	1286.8
20°	1047.6	1038.9	1032.9	1019.0	1004.3
22.5°	824.0	821.4	815.4	799.8	795.5
25°	630.8	636.0	628.2	621.3	597.9
27.5°	437.6	480.9	486.1	461.8	413.3
30°	257.4	314.5	367.4	304.1	231.4
32.5°	134.3	188.0	272.9	176.8	116.1
35°	57.2	99.6	189.8	89.3	53.7
37.5°	18.2	43.3	107.4	39.0	19.1
40°	8.7	13.9	53.7	14.7	8.7
42.5°	4.3	6.9	26.0	6.9	4.3
45°	2.6	3.5	9.5	3.5	1.7
47.5°	0.9	1.7	3.5	1.7	0.9
50°	0.0	0.9	1.7	0.9	0.0
52.5°	0.0	0.0	0.9	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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