

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: P886875

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDMB-1020LM-2700K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886875  
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-2700K  
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

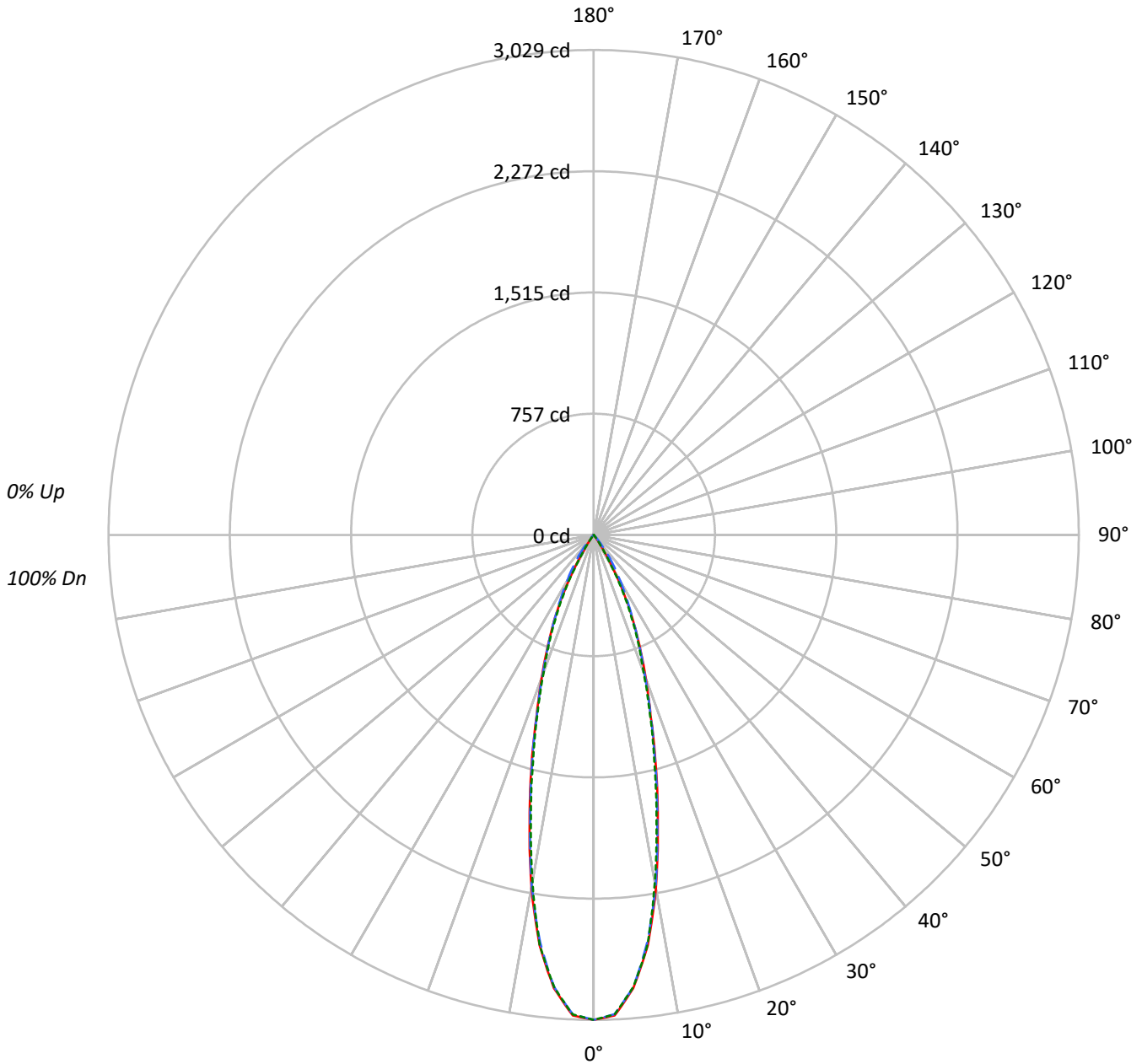
Lumens per Lamp: N/A  
Luminaire Lumens: 997.2 lumens  
Efficiency: N/A  
Efficacy: 56.7 lumens/watt  
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	293445	293445	293445
5°	276362	275671	275594
10°	220378	218991	216601
15°	150600	149025	146829
20°	97629	96258	93598
25°	60959	60703	57774
30°	26019	37149	23390
35°	6114	20282	5748
40°	986	6146	986
45°	315	1178	219
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: 1178 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	250.9	25.2
10°-20°	411.1	41.2
20°-30°	260.0	26.1
30°-40°	70.2	7.0
40°-50°	5.0	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°	921.9	92.4
0°-40°	992.1	99.5
0°-60°	997.2	100.0
0°-90°	997.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	997.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3029	3029	3029	3029	3029	
5°	2842	2839	2835	2837	2834	252
15°	1502	1492	1486	1459	1464	415
25°	570	575	568	562	540	257
35°	52	90	172	81	49	46
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°	3029.1	3029.1	3029.1	3029.1	3029.1
2.5°	3004.0	3001.7	2996.2	2999.3	2997.7
5°	2841.9	2838.7	2834.8	2837.2	2834.0
7.5°	2586.5	2571.6	2564.6	2566.9	2581.0
10°	2240.3	2218.3	2226.2	2194.1	2201.9
12.5°	1847.8	1838.4	1835.3	1829.0	1809.5
15°	1501.6	1492.2	1485.9	1459.3	1464.0
17.5°	1182.0	1191.4	1181.2	1171.1	1163.2
20°	947.0	939.2	933.7	921.2	907.9
22.5°	744.9	742.6	737.1	723.0	719.1
25°	570.3	575.0	567.9	561.6	540.5
27.5°	395.6	434.7	439.4	417.5	373.6
30°	232.6	284.3	332.1	274.9	209.1
32.5°	121.4	170.0	246.7	159.8	105.0
35°	51.7	90.1	171.5	80.7	48.6
37.5°	16.4	39.2	97.1	35.2	17.2
40°	7.8	12.5	48.6	13.3	7.8
42.5°	3.9	6.3	23.5	6.3	3.9
45°	2.3	3.1	8.6	3.1	1.6
47.5°	0.8	1.6	3.1	1.6	0.8
50°	0.0	0.8	1.6	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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