

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: P887051

Luminaire Tested: ML412LSFL9FS1E-TIR4D55WFL-TL4RDMB-1200LM-3000K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887051  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-44)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D55WFL-TL4RDMB-1200LM-3000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

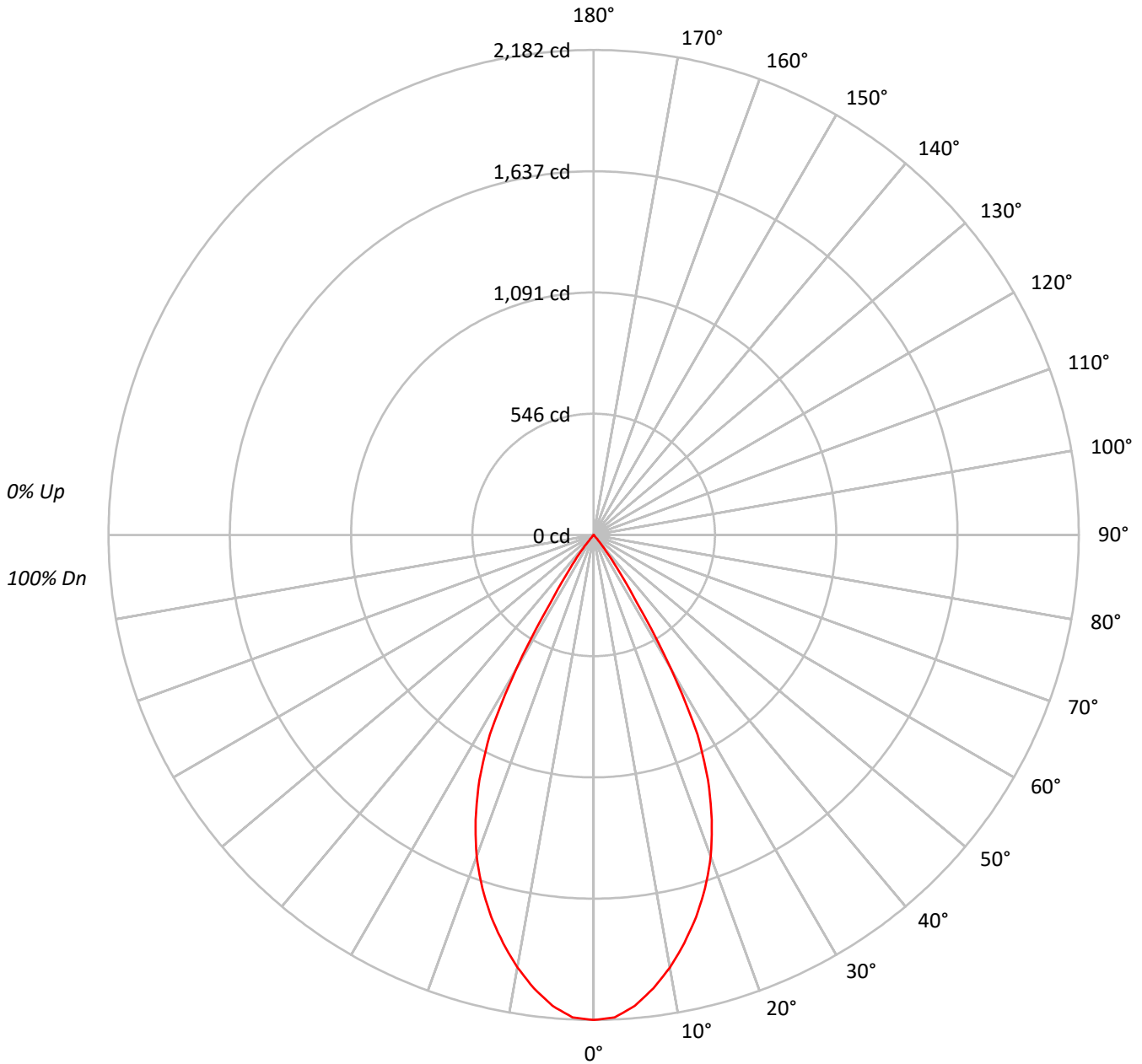
Lumens per Lamp: N/A  
Luminaire Lumens: 1383.6 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Spacing Criteria (0/90/45): 0.83 / 0.83 / 0.79  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	114	112	109	107	112	110	108	106	106	104	103	102	101	99	98	97	97	95																			
2	109	105	102	99	107	103	100	97	100	98	95	97	95	93	95	93	91	90																			
3	105	99	95	91	103	98	94	91	95	92	89	93	90	88	91	88	86	85																			
4	100	94	89	85	99	93	88	85	91	87	84	89	85	83	87	84	82	80																			
5	96	89	84	80	95	88	83	80	86	82	79	85	81	78	83	80	78	76																			
6	92	84	79	75	91	84	79	75	82	78	75	81	77	74	80	76	74	72																			
7	88	80	75	71	87	79	74	71	78	74	71	77	73	70	76	73	70	69																			
8	85	76	71	67	84	76	71	67	75	70	67	74	70	67	73	69	66	65																			
9	81	73	67	64	80	72	67	64	71	67	64	71	66	63	70	66	63	62																			
10	78	69	64	61	77	69	64	61	68	64	61	68	63	60	67	63	60	59																			

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

	0°
0°	269152
5°	263296
10°	247491
15°	227313
20°	201999
25°	165535
30°	99101
35°	27781
40°	4814
45°	174
50°	0
55°	0
60°	0
65°	0
70°	0
75°	0
80°	0
85°	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 47.5°  
 Luminance: 183 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.1	14.3
10°-20°	495.9	35.8
20°-30°	536.7	38.8
30°-40°	149.1	10.8
40°-50°	3.9	0.3
50°-60°	0.0	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°	1230.6	88.9
0°-40°	1379.7	99.7
0°-60°	1383.6	100.0
0°-90°	1383.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1383.6	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2182	
5°	2126	198
15°	1780	496
25°	1216	537
35°	184	149
45°	1	4
55°	0	0
65°	0	0
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	2182.1
2.5°	2172.8
5°	2126.5
7.5°	2057.4
10°	1976.0
12.5°	1881.1
15°	1780.1
17.5°	1666.7
20°	1538.9
22.5°	1387.4
25°	1216.3
27.5°	1011.2
30°	695.8
32.5°	362.8
35°	184.5
37.5°	87.6
40°	29.9
42.5°	4.1
45°	1.0
47.5°	1.0
50°	0.0
52.5°	0.0
55°	0.0
57.5°	0.0
60°	0.0
62.5°	0.0
65°	0.0
67.5°	0.0
70°	0.0
72.5°	0.0
75°	0.0
77.5°	0.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180°

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(END OF REPORT)