

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: P886988

Luminaire Tested: ML412LSFL9FS1E-TIR4D25NFL-TL4RDMB-720LM-4000K

Issue Date: 7/18/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P886988  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-38)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/18/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D25NFL-TL4RDMB-720LM-4000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

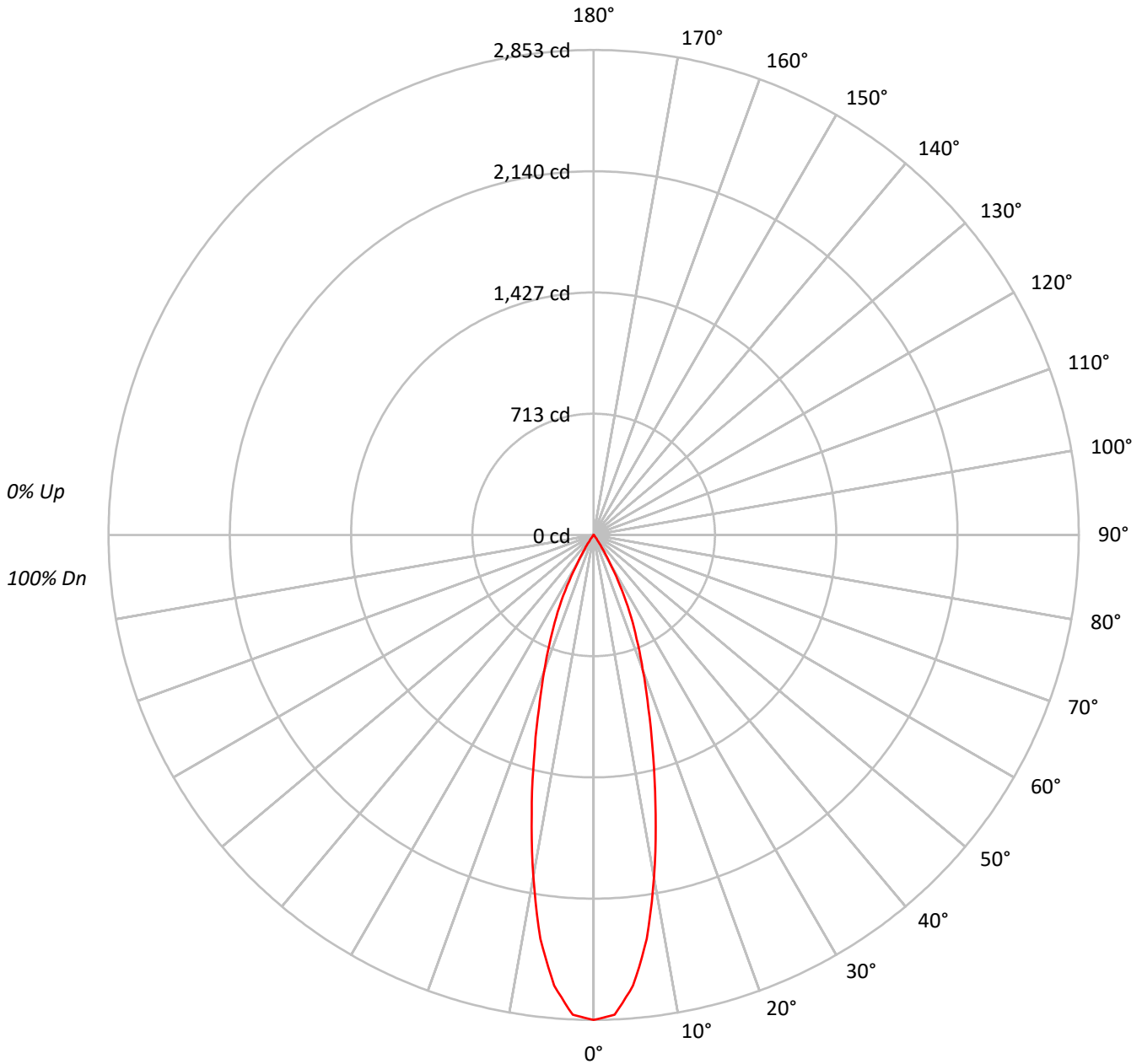
Lumens per Lamp: N/A  
Luminaire Lumens: 872.4 lumens  
Efficiency: N/A  
Efficacy: 83.1 lumens/watt  
Spacing Criteria (0/90/45): 0.48 / 0.48 / 0.51  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 10.5  
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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CATALOG NUMBER: ML412LSFL9FS1E-TIR4D25NFL-TL4RDDB-720LM-4000K

**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	113	111	109	112	110	109	107	106	105	104	103	102	101	99	99	98	96																			
2	111	107	104	101	109	105	102	100	102	100	98	99	97	96	97	95	94	92																			
3	107	102	98	95	105	101	97	94	98	95	93	96	93	91	94	92	90	89																			
4	103	97	93	90	102	96	93	90	94	91	89	93	90	88	91	88	87	85																			
5	100	93	89	86	98	93	88	85	91	87	85	89	86	84	88	85	83	82																			
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79																			
7	93	86	82	79	92	86	82	78	85	81	78	84	80	78	83	80	77	76																			
8	90	83	79	76	89	83	78	76	82	78	75	81	77	75	80	77	75	74																			
9	88	80	76	73	87	80	76	73	79	75	73	78	75	72	78	74	72	71																			
10	85	78	73	70	84	77	73	70	77	73	70	76	72	70	75	72	70	69																			

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

	0°
0°	351930
5°	329439
10°	255895
15°	172391
20°	110929
25°	67940
30°	26919
35°	6113
40°	1031
45°	244
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: 45°  
 Luminance: 244 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.2	26.8
10°-20°	375.6	43.1
20°-30°	224.0	25.7
30°-40°	36.8	4.2
40°-50°	1.7	0.2
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°	833.9	95.6
0°-40°	870.7	99.8
0°-60°	872.4	100.0
0°-90°	872.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	872.4	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2853	
5°	2661	234
15°	1350	376
25°	499	224
35°	41	37
45°	1	2
55°	0	0
65°	0	0
75°	0	0
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	2853.2
2.5°	2825.4
5°	2660.7
7.5°	2396.8
10°	2043.1
12.5°	1683.0
15°	1350.0
17.5°	1069.7
20°	845.1
22.5°	659.6
25°	499.2
27.5°	336.6
30°	189.0
32.5°	95.6
35°	40.6
37.5°	14.3
40°	6.4
42.5°	3.6
45°	1.4
47.5°	0.7
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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Scaled Data Report



(END OF REPORT)