

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: P887027

Luminaire Tested: ML412LSFL9FS1E-TIR4D40FL-TL4RDMW-1200LM-3500K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887027  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-39)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D40FL-TL4RDMW-1200LM-3500K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1625.9 lumens  
Efficiency: N/A  
Efficacy: 92.4 lumens/watt  
Spacing Criteria (0/90/45): 0.67 / 0.67 / 0.64  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

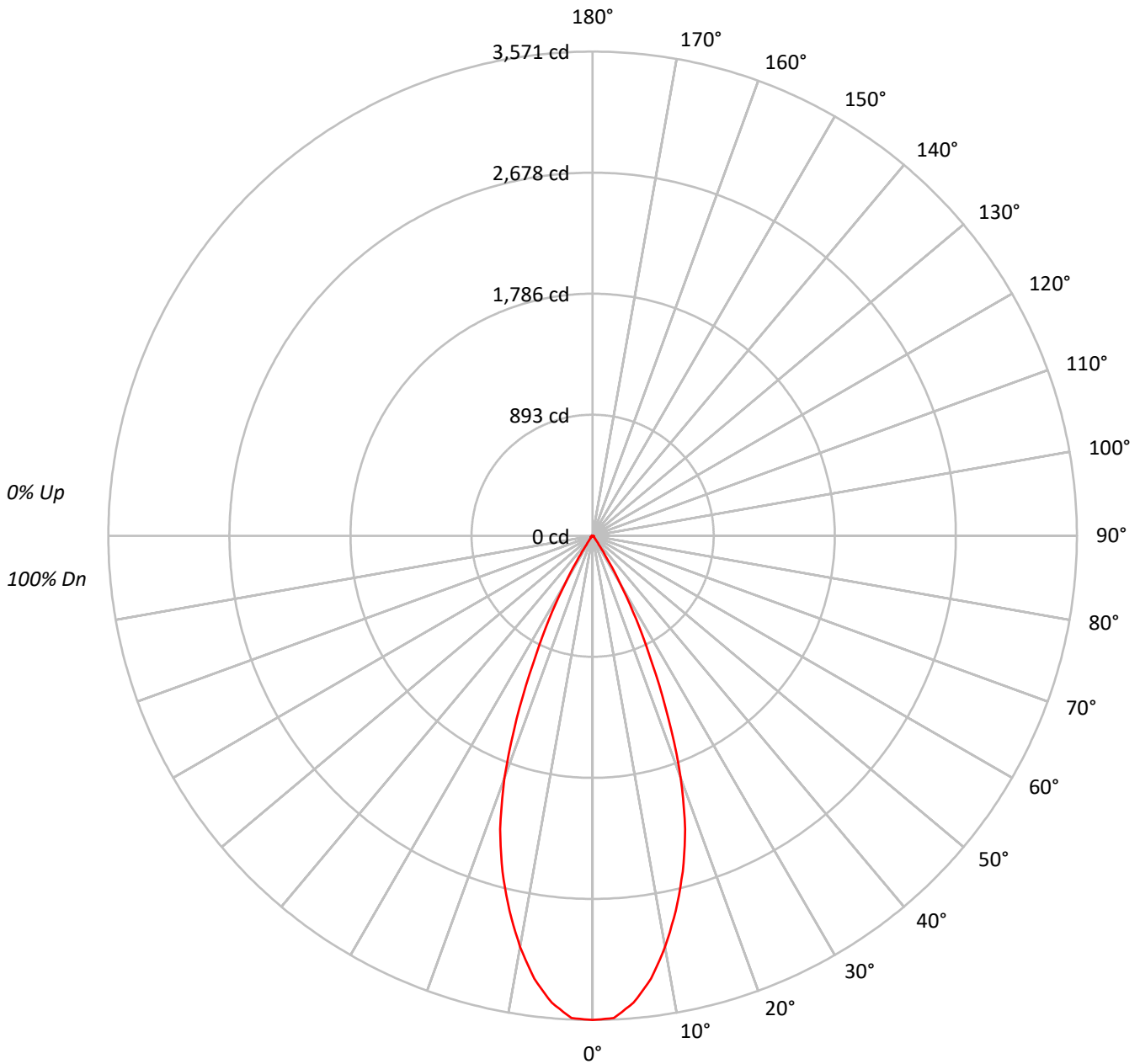
Input Watts (W): 17.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				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	100	100	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	95	95	95
2	110	106	102	99	108	104	101	98	101	98	96	98	96	94	95	93	92	90	90	90	90
3	105	100	96	92	104	99	95	92	96	93	90	94	91	89	92	89	88	86	86	86	86
4	101	95	90	87	100	94	90	86	92	88	85	90	87	84	88	86	83	82	82	82	82
5	97	91	86	82	96	90	85	82	88	84	81	86	83	80	85	82	80	78	78	78	78
6	94	87	82	78	93	86	81	78	84	80	77	83	80	77	82	79	76	75	75	75	75
7	90	83	78	74	89	82	78	74	81	77	74	80	76	73	79	76	73	72	72	72	72
8	87	79	74	71	86	79	74	71	78	74	71	77	73	70	76	73	70	69	69	69	69
9	84	76	71	68	83	76	71	68	75	71	68	74	70	68	73	70	67	66	66	66	66
10	81	73	69	65	80	73	68	65	72	68	65	71	68	65	71	67	65	64	64	64	64

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

	0°
0°	440467
5°	428010
10°	385527
15°	327657
20°	249279
25°	141132
30°	56985
35°	11414
40°	4122
45°	2983
50°	2859
55°	2989
60°	3158
65°	3123
70°	3065
75°	3050
80°	3054
85°	2972

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 57.5°  
 Luminance: 3191 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.9	19.6
10°-20°	703.0	43.2
20°-30°	482.1	29.7
30°-40°	76.7	4.7
40°-50°	14.0	0.9
50°-60°	12.7	0.8
60°-70°	10.6	0.6
70°-80°	6.8	0.4
80°-90°	2.3	0.1
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°	1503.0	92.4
0°-40°	1579.7	97.2
0°-60°	1606.3	98.8
0°-90°	1625.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1625.9	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	3571	
5°	3457	318
15°	2566	703
25°	1037	482
35°	76	77
45°	17	14
55°	14	13
65°	11	11
75°	6	7
85°	2	2
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	3571.0
2.5°	3560.3
5°	3456.8
7.5°	3295.7
10°	3078.1
12.5°	2832.7
15°	2565.9
17.5°	2268.3
20°	1899.1
22.5°	1463.8
25°	1037.0
27.5°	693.5
30°	400.1
32.5°	184.6
35°	75.8
37.5°	41.6
40°	25.6
42.5°	19.2
45°	17.1
47.5°	16.0
50°	14.9
52.5°	14.9
55°	13.9
57.5°	13.9
60°	12.8
62.5°	11.7
65°	10.7
67.5°	9.6
70°	8.5
72.5°	7.5
75°	6.4
77.5°	5.3
80°	4.3
82.5°	3.2
85°	2.1
87.5°	1.1
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)