

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: P887024

Luminaire Tested: ML412LSFL9FS1E-TIR4D40FL-TL4RDMB-1200LM-5000K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887024  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-41)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D40FL-TL4RDMB-1200LM-5000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1695.1 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.64  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

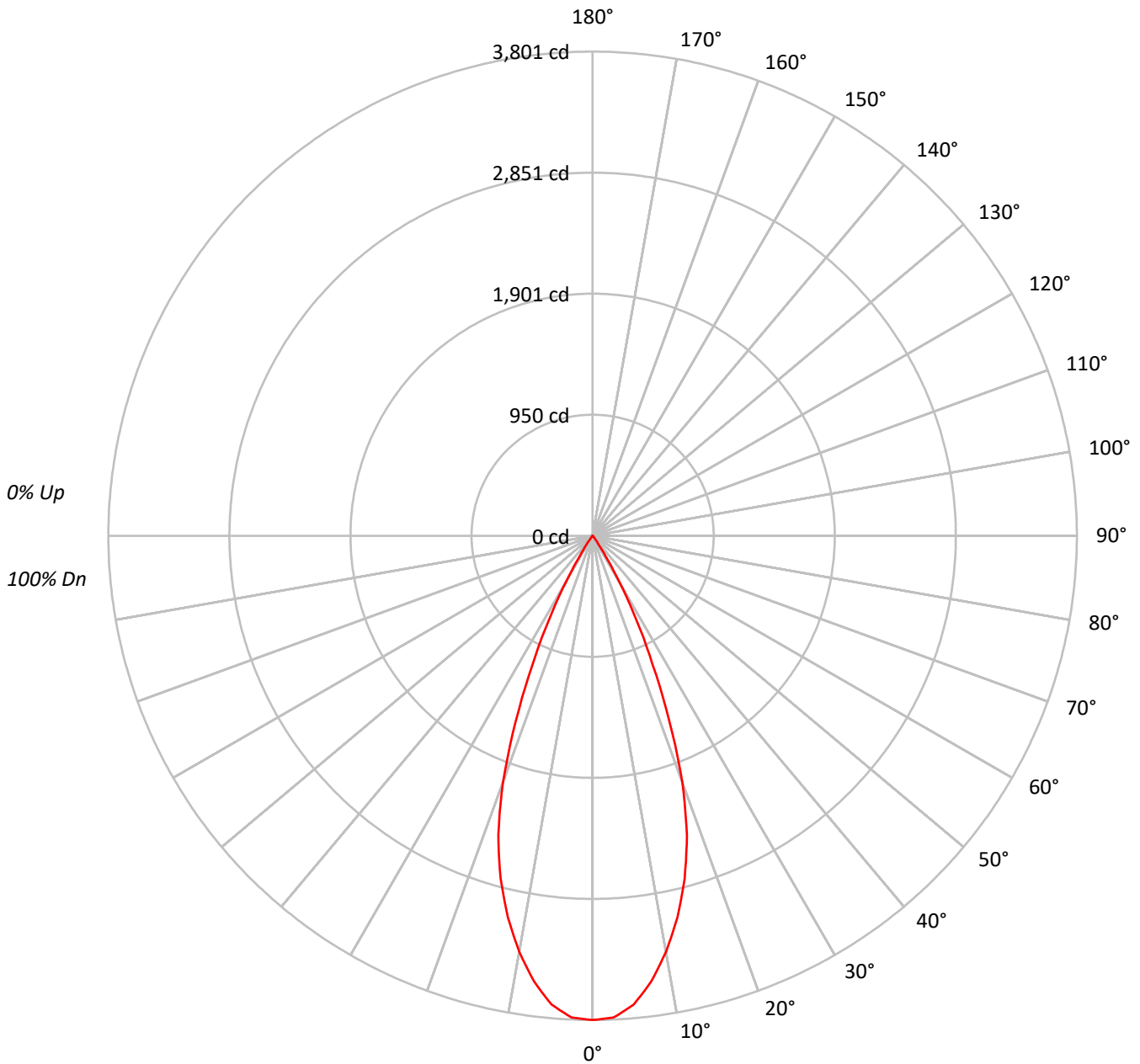
Input Watts (W): 17.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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

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

	0°
0°	468861
5°	457392
10°	415261
15°	355980
20°	269887
25°	151258
30°	59235
35°	9998
40°	1868
45°	209
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: 209 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.2	20.1
10°-20°	761.9	44.9
20°-30°	517.8	30.5
30°-40°	73.0	4.3
40°-50°	2.2	0.1
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°	1620.0	95.6
0°-40°	1693.0	99.9
0°-60°	1695.1	100.0
0°-90°	1695.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1695.1	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	3801	
5°	3694	340
15°	2788	762
25°	1111	518
35°	66	73
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°	3801.2
2.5°	3786.1
5°	3694.1
7.5°	3528.6
10°	3315.5
12.5°	3069.6
15°	2787.7
17.5°	2461.5
20°	2056.1
22.5°	1575.0
25°	1111.4
27.5°	745.6
30°	415.9
32.5°	184.1
35°	66.4
37.5°	29.1
40°	11.6
42.5°	4.7
45°	1.2
47.5°	0.0
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)