

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: P887064

Luminaire Tested: ML412LSFL9FS1E-TIR4D55WFL-TL4RDSL-1200LM-5000K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887064  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-43)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D55WFL-TL4RDSL-1200LM-5000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

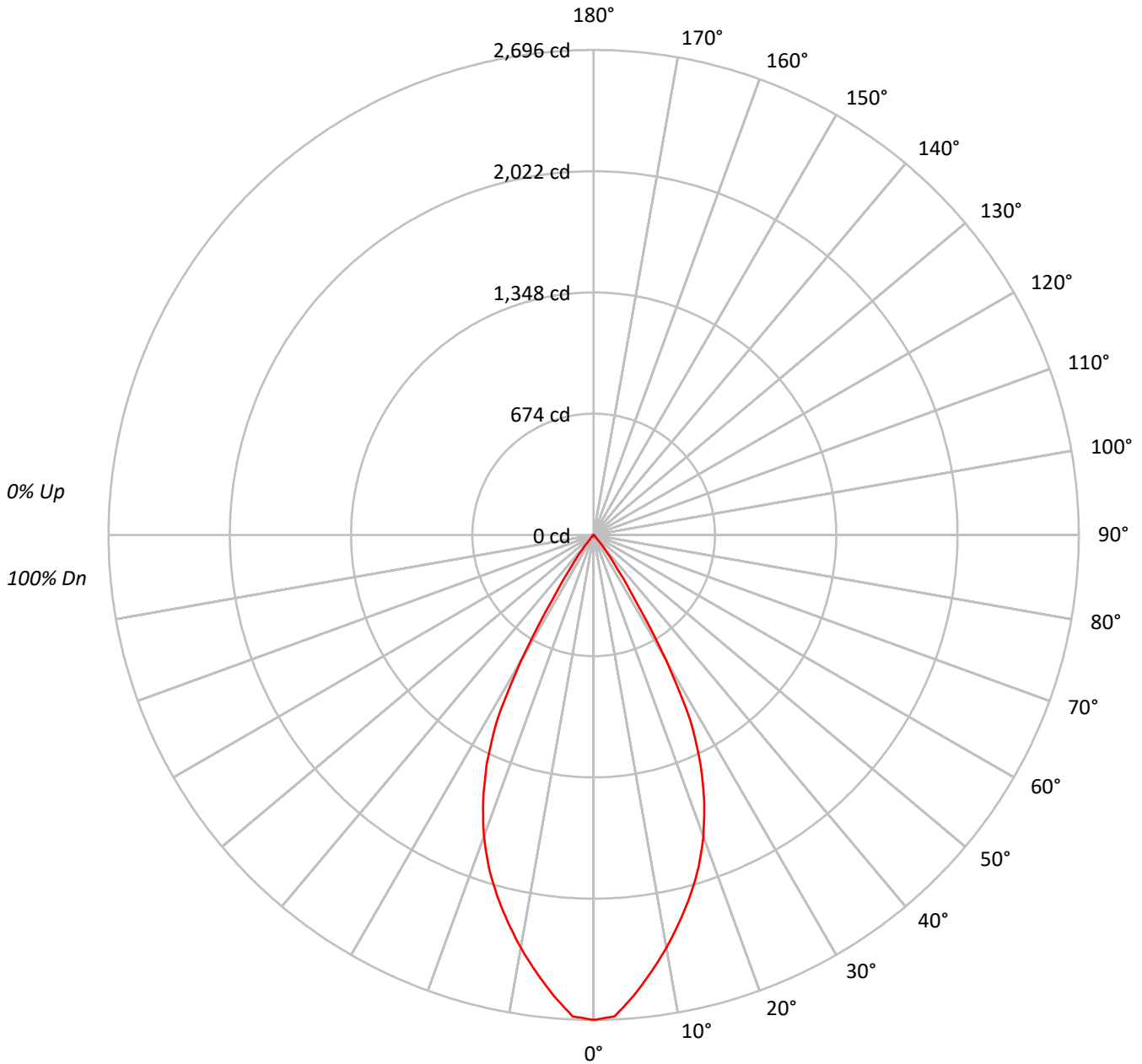
Lumens per Lamp: N/A  
Luminaire Lumens: 1634.6 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.77  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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			
1	114	112	109	107	112	109	107	106	105	104	102	102	101	99	98	97	96	95			
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90			
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85			
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	81	80			
5	96	88	83	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76			
6	92	84	79	75	90	83	78	75	82	77	74	80	77	74	79	76	73	72			
7	88	80	74	71	87	79	74	71	78	73	70	77	73	70	76	72	69	68			
8	84	76	71	67	83	75	70	67	74	70	67	73	69	66	72	69	66	65			
9	81	72	67	64	80	72	67	64	71	66	63	70	66	63	69	66	63	62			
10	78	69	64	60	77	69	64	60	68	63	60	67	63	60	67	63	60	59			

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

	0°
0°	332527
5°	318073
10°	291854
15°	264996
20°	234026
25°	191298
30°	114611
35°	33850
40°	7310
45°	1832
50°	1343
55°	1011
60°	863
65°	671
70°	433
75°	572
80°	852
85°	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1832 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	237.7	14.5
10°-20°	578.5	35.4
20°-30°	620.4	38.0
30°-40°	178.2	10.9
40°-50°	11.3	0.7
50°-60°	4.6	0.3
60°-70°	2.6	0.2
70°-80°	1.3	0.1
80°-90°	0.2	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°	1436.5	87.9
0°-40°	1614.7	98.8
0°-60°	1630.6	99.8
0°-90°	1634.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1634.6	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2696	
5°	2569	238
15°	2075	578
25°	1406	620
35°	225	178
45°	10	11
55°	5	5
65°	2	3
75°	1	1
85°	0	0
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	2695.9
2.5°	2678.4
5°	2568.9
7.5°	2450.2
10°	2330.2
12.5°	2203.3
15°	2075.2
17.5°	1937.8
20°	1782.9
22.5°	1605.9
25°	1405.6
27.5°	1165.7
30°	804.7
32.5°	428.5
35°	224.8
37.5°	111.8
40°	45.4
42.5°	15.1
45°	10.5
47.5°	8.2
50°	7.0
52.5°	5.8
55°	4.7
57.5°	4.7
60°	3.5
62.5°	3.5
65°	2.3
67.5°	2.3
70°	1.2
72.5°	1.2
75°	1.2
77.5°	1.2
80°	1.2
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)