

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: P887056

Luminaire Tested: ML412LSFL9FS1E-TIR4D55WFL-TL4RDMW-1200LM-3000K

Issue Date: 7/9/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P887056  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-42)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 7/9/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO  
Catalog Number: ML412LSFL9FS1E-TIR4D55WFL-TL4RDMW-1200LM-3000K  
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM  
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

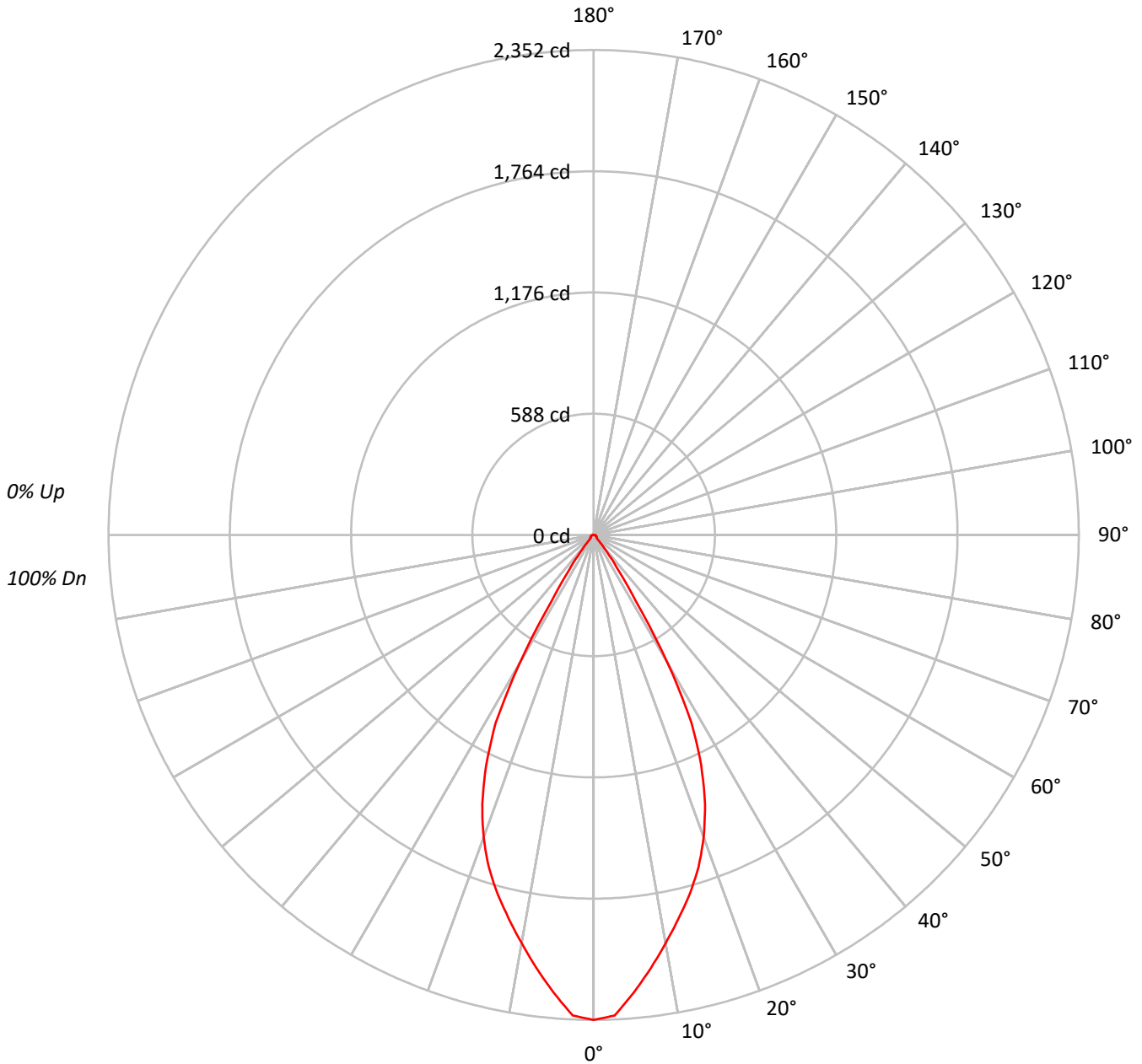
Lumens per Lamp: N/A  
Luminaire Lumens: 1478.4 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.78  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 17.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94			
2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88			
3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83			
4	99	92	87	83	97	91	86	83	89	85	82	87	83	81	85	82	80	78			
5	95	87	82	78	93	86	81	77	84	80	77	83	79	76	81	78	75	74			
6	91	82	77	73	89	82	76	73	80	76	72	79	75	72	78	74	71	70			
7	87	78	73	69	85	78	72	69	76	72	68	75	71	68	74	70	68	66			
8	83	74	69	65	82	74	69	65	73	68	65	72	67	64	71	67	64	63			
9	80	71	65	62	79	70	65	62	69	65	61	69	64	61	68	64	61	60			
10	76	67	62	59	75	67	62	59	66	62	58	66	61	58	65	61	58	57			

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

	0°
0°	290146
5°	275814
10°	251787
15°	230020
20°	204808
25°	167780
30°	102092
35°	31169
40°	8131
45°	3768
50°	3953
55°	3978
60°	4070
65°	4203
70°	4075
75°	4432
80°	4404
85°	4387

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 75°  
 Luminance: 4432 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	205.9	13.9
10°-20°	502.5	34.0
20°-30°	545.7	36.9
30°-40°	161.7	10.9
40°-50°	19.6	1.3
50°-60°	16.6	1.1
60°-70°	13.9	0.9
70°-80°	9.4	0.6
80°-90°	3.1	0.2
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°	1254.1	84.8
0°-40°	1415.8	95.8
0°-60°	1452.0	98.2
0°-90°	1478.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1478.4	100.0

**CANDELA DISTRIBUTION:**

	0°	Flux
0°	2352	
5°	2228	206
15°	1801	503
25°	1233	546
35°	207	162
45°	22	20
55°	18	17
65°	14	14
75°	9	9
85°	3	3
90°	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°
0°	2352.3
2.5°	2332.7
5°	2227.6
7.5°	2119.5
10°	2010.3
12.5°	1904.3
15°	1801.3
17.5°	1690.0
20°	1560.3
22.5°	1410.9
25°	1232.8
27.5°	1028.9
30°	716.8
32.5°	379.0
35°	207.0
37.5°	108.1
40°	50.5
42.5°	24.7
45°	21.6
47.5°	20.6
50°	20.6
52.5°	19.6
55°	18.5
57.5°	17.5
60°	16.5
62.5°	15.4
65°	14.4
67.5°	12.4
70°	11.3
72.5°	10.3
75°	9.3
77.5°	7.2
80°	6.2
82.5°	4.1
85°	3.1
87.5°	1.0
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)