

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: P886996

Luminaire Tested: ML412LSFL9FS1E-TIR4D25NFL-TL4RDMW-1200LM-3000K

Issue Date: 7/18/2024

Test Information

Test Method: LM-79-2019
Report Number: P886996
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-36)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/18/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL9FS1E-TIR4D25NFL-TL4RDMW-1200LM-3000K
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

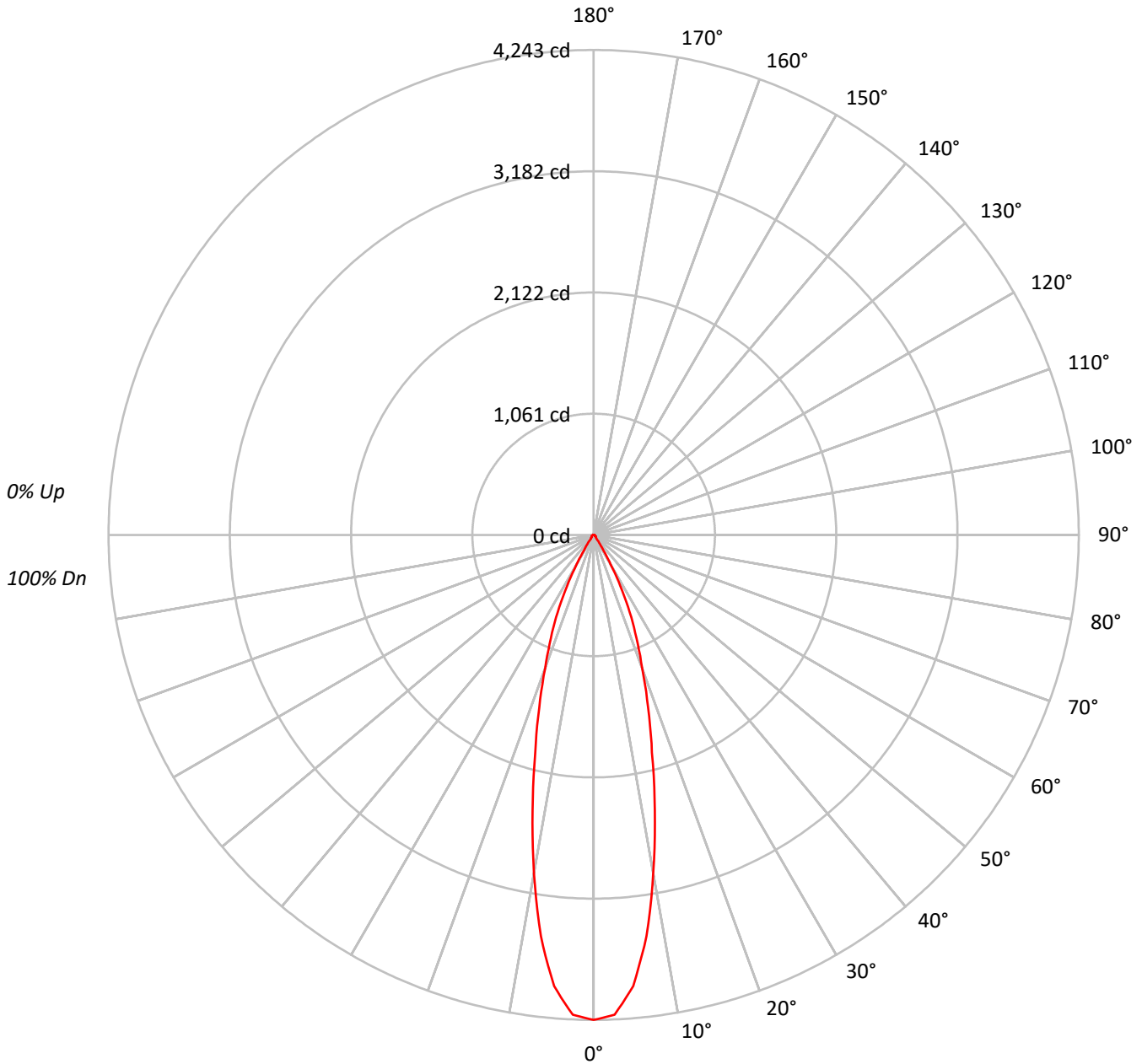
Lumens per Lamp: N/A
Luminaire Lumens: 1367.1 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 0.47 / 0.47 / 0.51
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	523343
5°	490649
10°	376309
15°	251690
20°	162699
25°	101664
30°	42415
35°	12408
40°	5136
45°	4309
50°	4356
55°	4430
60°	4317
65°	4524
70°	4472
75°	4432
80°	4404
85°	4387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 87.5°
 Luminance: 5938 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.9	25.4
10°-20°	551.6	40.3
20°-30°	334.0	24.4
30°-40°	67.7	5.0
40°-50°	19.7	1.4
50°-60°	18.3	1.3
60°-70°	15.2	1.1
70°-80°	10.1	0.7
80°-90°	3.7	0.3
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°	1232.4	90.1
0°-40°	1300.1	95.1
0°-60°	1338.2	97.9
0°-90°	1367.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1367.1	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	4243	
5°	3963	347
15°	1971	552
25°	747	334
35°	82	68
45°	25	20
55°	21	18
65°	16	15
75°	9	10
85°	3	4
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	4242.9
2.5°	4201.7
5°	3962.7
7.5°	3541.3
10°	3004.5
12.5°	2468.7
15°	1971.0
17.5°	1581.6
20°	1239.5
22.5°	975.7
25°	747.0
27.5°	504.9
30°	297.8
32.5°	161.8
35°	82.4
37.5°	42.2
40°	31.9
42.5°	27.8
45°	24.7
47.5°	22.7
50°	22.7
52.5°	21.6
55°	20.6
57.5°	19.6
60°	17.5
62.5°	16.5
65°	15.5
67.5°	14.4
70°	12.4
72.5°	11.3
75°	9.3
77.5°	8.2
80°	6.2
82.5°	5.2
85°	3.1
87.5°	2.1
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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