

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: P886998

Luminaire Tested: ML412LSFL9FS1E-TIR4D25NFL-TL4RDMW-1200LM-4000K

Issue Date: 7/18/2024

Test Information

Test Method: LM-79-2019
Report Number: P886998
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-4000K
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

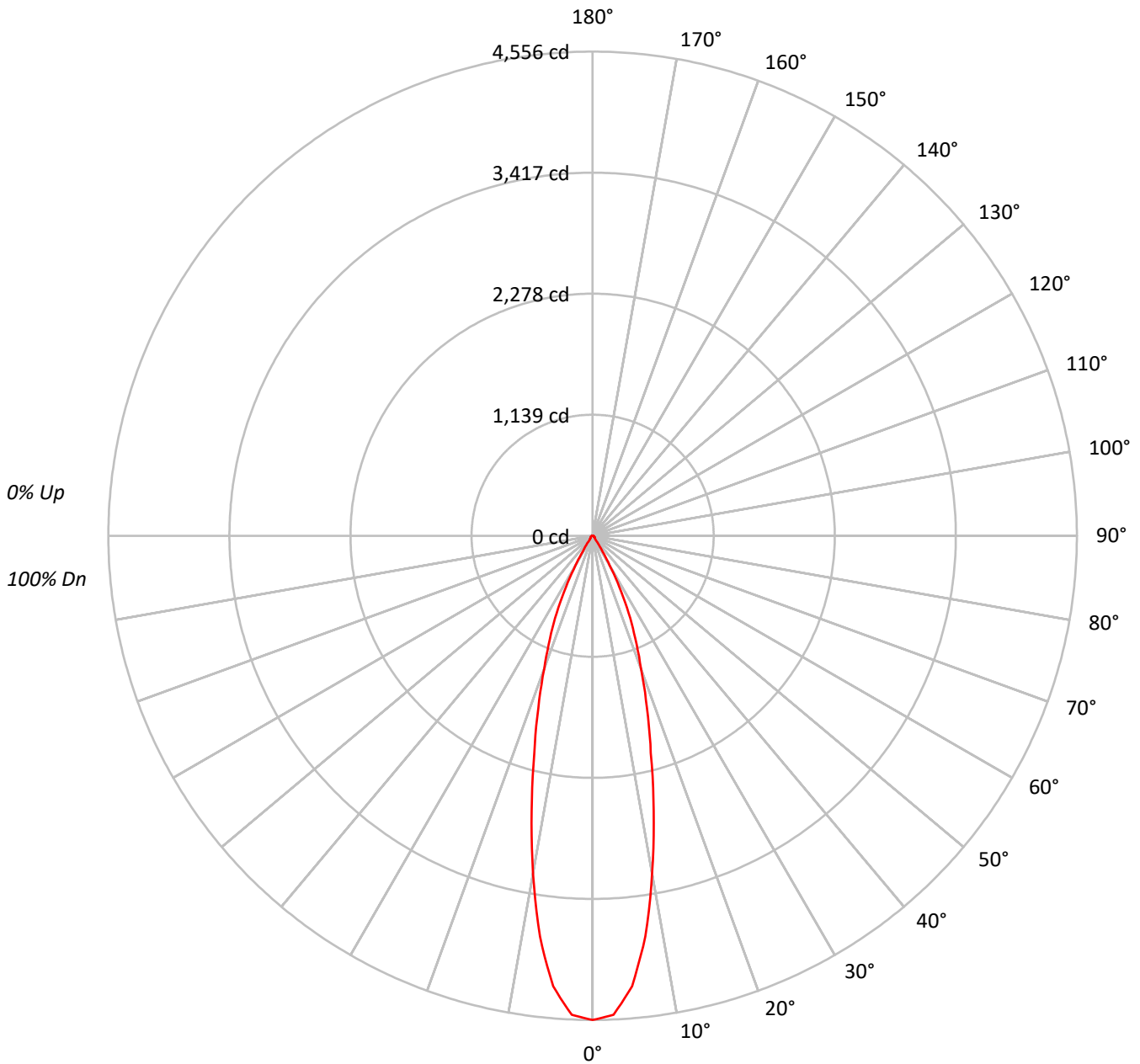
Lumens per Lamp: N/A
Luminaire Lumens: 1467.9 lumens
Efficiency: N/A
Efficacy: 83.4 lumens/watt
Spacing Criteria (0/90/45): 0.47 / 0.47 / 0.51
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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									
RC	80									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°	561950
5°	526828
10°	404064
15°	270257
20°	174696
25°	109163
30°	45534
35°	13326
40°	5523
45°	4640
50°	4663
55°	4753
60°	4638
65°	4845
70°	4796
75°	4766
80°	4688
85°	4670

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 87.5°
 Luminance: 6221 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	372.5	25.4
10°-20°	592.2	40.3
20°-30°	358.6	24.4
30°-40°	72.7	5.0
40°-50°	21.2	1.4
50°-60°	19.7	1.3
60°-70°	16.3	1.1
70°-80°	10.8	0.7
80°-90°	3.9	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°	1323.3	90.1
0°-40°	1396.0	95.1
0°-60°	1436.9	97.9
0°-90°	1467.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1467.9	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	4556	
5°	4255	372
15°	2116	592
25°	802	359
35°	88	73
45°	27	21
55°	22	20
65°	17	16
75°	10	11
85°	3	4
90°	0	



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CANDELA DISTRIBUTION (FULL):

0°	
0°	4555.9
2.5°	4511.6
5°	4254.9
7.5°	3802.4
10°	3226.1
12.5°	2650.8
15°	2116.4
17.5°	1698.2
20°	1330.9
22.5°	1047.7
25°	802.1
27.5°	542.1
30°	319.7
32.5°	173.7
35°	88.5
37.5°	45.4
40°	34.3
42.5°	29.9
45°	26.6
47.5°	24.3
50°	24.3
52.5°	23.2
55°	22.1
57.5°	21.0
60°	18.8
62.5°	17.7
65°	16.6
67.5°	15.5
70°	13.3
72.5°	12.2
75°	10.0
77.5°	8.9
80°	6.6
82.5°	5.5
85°	3.3
87.5°	2.2
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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