

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: P887023

Luminaire Tested: ML412LSFL9FS1E-TIR4D40FL-TL4RDMB-1200LM-4000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887023
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-4000K
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

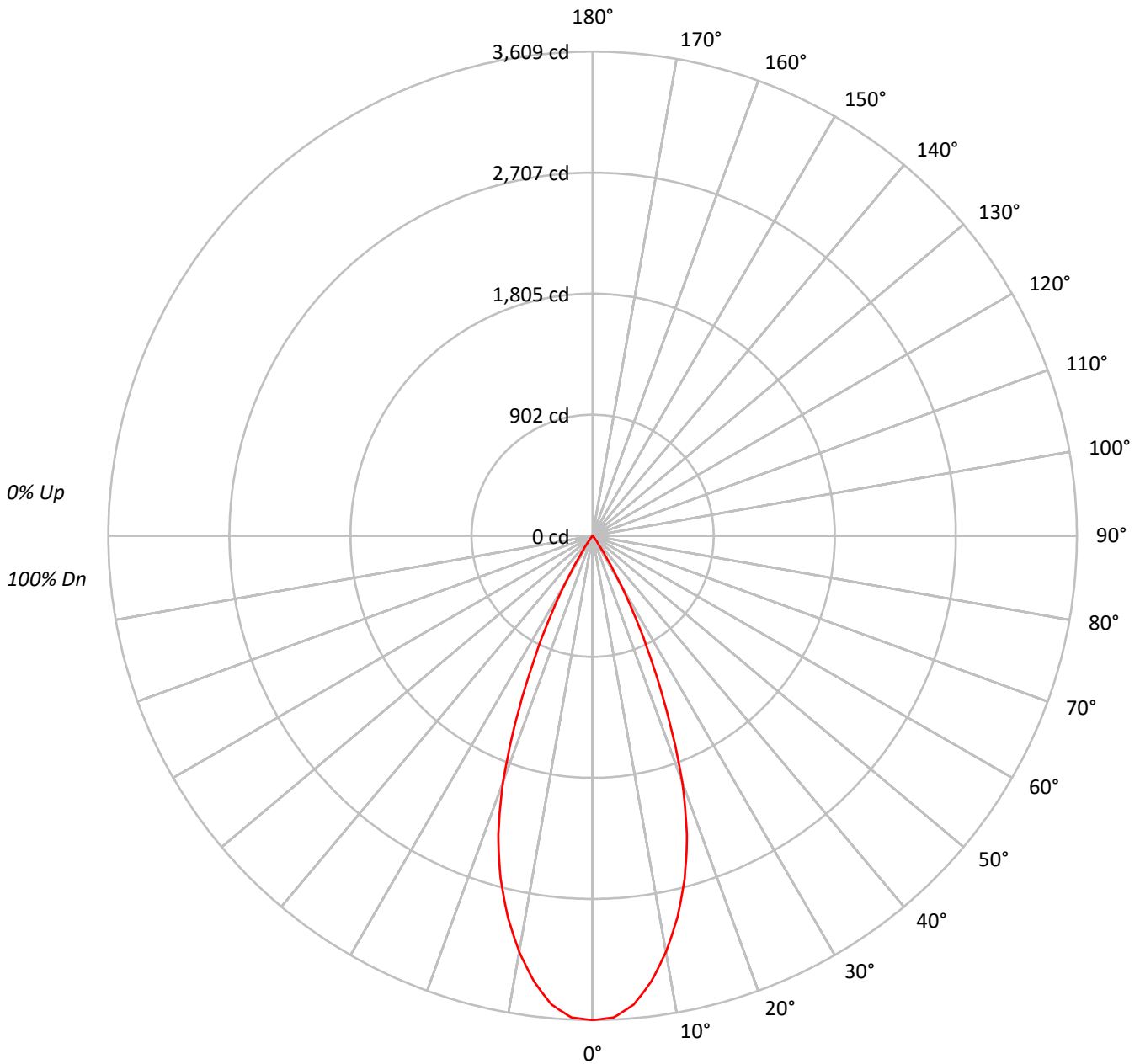
Lumens per Lamp: N/A
Luminaire Lumens: 1609.6 lumens
Efficiency: N/A
Efficacy: 91.5 lumens/watt
Spacing Criteria (0/90/45): 0.68 / 0.68 / 0.64
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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									
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	50	30	10	0													
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100						100													
1	115	112	110	108	112	110	108	107	106	105	103	102	101	100	99	98	97	96						96													
2	110	106	103	100	108	105	102	99	101	99	97	99	97	95	96	94	93	92						92													
3	106	101	97	94	104	100	96	93	97	94	92	95	92	90	93	91	89	88						88													
4	102	96	92	89	101	95	91	88	93	90	87	91	88	86	90	87	85	84						84													
5	99	92	87	84	97	91	87	84	89	86	83	88	85	82	86	84	81	80						80													
6	95	88	83	80	94	87	83	80	86	82	79	85	81	79	83	80	78	77						77													
7	92	84	80	76	90	84	79	76	83	79	76	81	78	75	80	77	75	74						74													
8	88	81	76	73	87	80	76	73	79	75	73	79	75	72	78	74	72	71						71													
9	85	78	73	70	84	77	73	70	77	72	70	76	72	69	75	72	69	68						68													
10	83	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	67	66						66													

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	445191
5°	434287
10°	394295
15°	338013
20°	256262
25°	143623
30°	56245
35°	9486
40°	1787
45°	192
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: 192 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	323.0	20.1
10°-20°	723.5	44.9
20°-30°	491.7	30.5
30°-40°	69.3	4.3
40°-50°	2.0	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°	1538.2	95.6
0°-40°	1607.5	99.9
0°-60°	1609.6	100.0
0°-90°	1609.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1609.6	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	3609	
5°	3508	323
15°	2647	723
25°	1055	492
35°	63	69
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°	3609.3
2.5°	3594.9
5°	3507.5
7.5°	3350.5
10°	3148.1
12.5°	2914.7
15°	2647.0
17.5°	2337.3
20°	1952.3
22.5°	1495.5
25°	1055.3
27.5°	707.9
30°	394.9
32.5°	174.8
35°	63.0
37.5°	27.7
40°	11.1
42.5°	4.4
45°	1.1
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)