

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: P887003

Luminaire Tested: ML412LSFL9FS1E-TIR4D25NFL-TL4RDSL-1200LM-4000K

Issue Date: 7/18/2024

Test Information

Test Method: LM-79-2019
Report Number: P887003
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-37)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/18/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL9FS1E-TIR4D25NFL-TL4RDSL-1200LM-4000K
Description: 4IN ROUND ML FLEX, SELECTABLE CCT, WITH 25D TIR, METALLIC SILVER TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: -

Summary

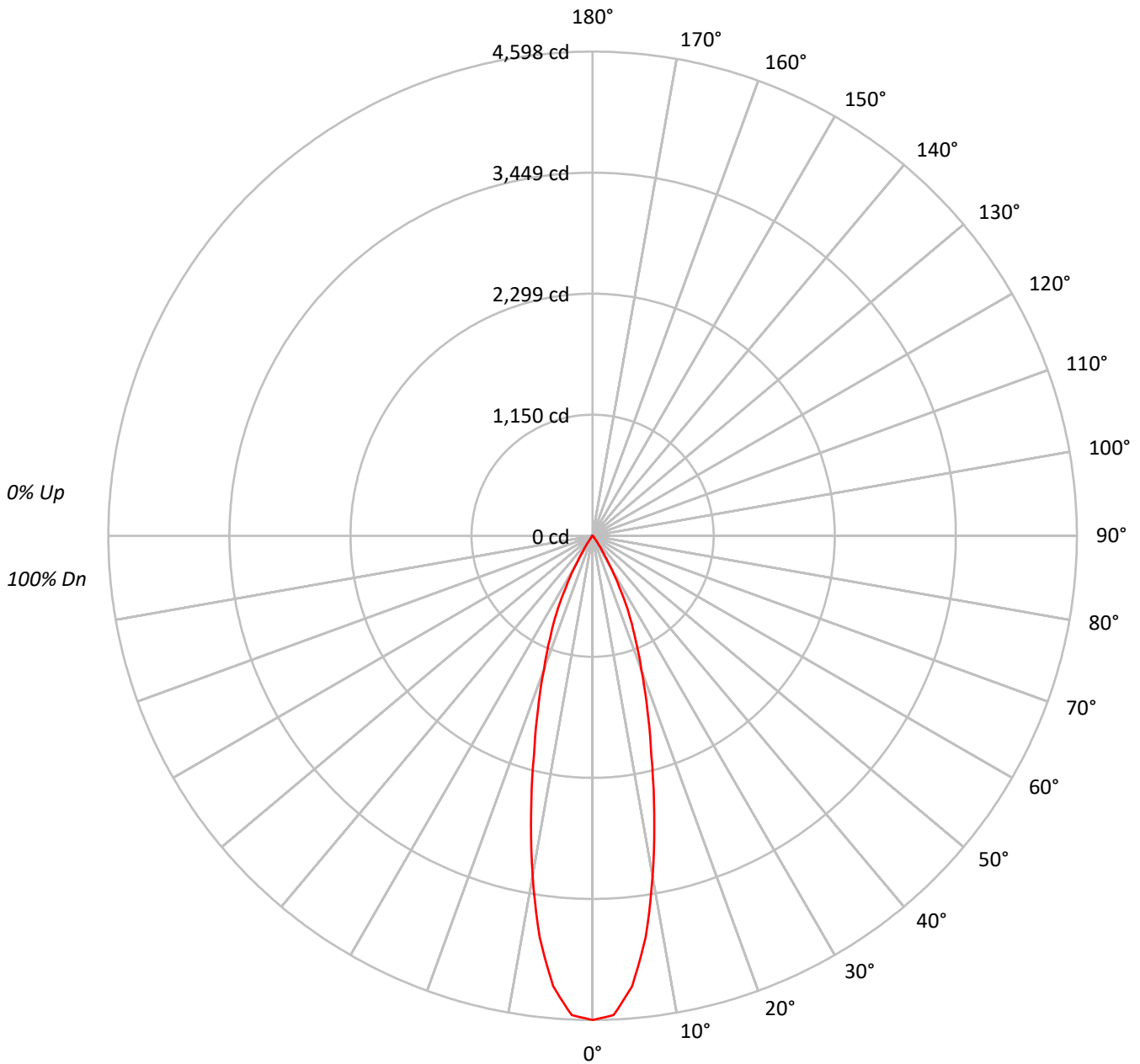
Lumens per Lamp: N/A
Luminaire Lumens: 1429.2 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 0.48 / 0.48 / 0.51
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P887003
CATALOG NUMBER: ML412LSFL9FS1E-TIR4D25NFL-TL4RDSL-1200LM-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P887003

CATALOG NUMBER: ML412LSFL9FS1E-TIR4D25NFL-TL4RD5L-1200LM-4000K

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			100																
1	115	112	110	109	112	110	108	107	106	105	104	103	101	100	99	98	98	96			96																
2	110	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92			92																
3	107	101	98	94	105	100	97	94	98	95	92	95	93	91	93	91	89	88			88																
4	103	97	93	89	101	96	92	89	94	90	88	92	89	87	90	88	86	85			85																
5	99	93	88	85	98	92	88	85	90	87	84	89	86	83	87	85	82	81			81																
6	96	89	84	81	95	88	84	81	87	83	80	86	82	80	84	82	79	78			78																
7	93	86	81	78	92	85	81	78	84	80	77	83	79	77	82	79	76	75			75																
8	90	82	78	75	89	82	78	75	81	77	74	80	77	74	79	76	74	73			73																
9	87	80	75	72	86	79	75	72	78	74	72	77	74	71	77	74	71	70			70																
10	84	77	72	69	83	76	72	69	76	72	69	75	71	69	74	71	69	68			68																

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	567180
5°	531545
10°	410928
15°	274599
20°	177571
25°	110946
30°	45691
35°	12332
40°	3736
45°	2128
50°	1266
55°	1183
60°	814
65°	642
70°	793
75°	524
80°	781
85°	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2128 cd/sqm



TEST NUMBER: P887003

CATALOG NUMBER: ML412LSFL9FS1E-TIR4D25NFL-TL4RDSL-1200LM-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	376.8	26.4
10°-20°	602.0	42.1
20°-30°	363.3	25.4
30°-40°	68.7	4.8
40°-50°	9.8	0.7
50°-60°	4.5	0.3
60°-70°	2.6	0.2
70°-80°	1.3	0.1
80°-90°	0.1	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°	1342.1	93.9
0°-40°	1410.8	98.7
0°-60°	1425.1	99.7
0°-90°	1429.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1429.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	4598	
5°	4293	377
15°	2150	602
25°	815	363
35°	82	69
45°	12	10
55°	6	5
65°	2	3
75°	1	1
85°	0	0
90°	0	



TEST NUMBER: P887003

CATALOG NUMBER: ML412LSFL9FS1E-TIR4D25NFL-TL4RDSL-1200LM-4000K

CANDELA DISTRIBUTION (FULL):

0°	
0°	4598.3
2.5°	4556.3
5°	4293.0
7.5°	3847.2
10°	3280.9
12.5°	2699.0
15°	2150.4
17.5°	1723.4
20°	1352.8
22.5°	1060.8
25°	815.2
27.5°	547.5
30°	320.8
32.5°	170.3
35°	81.9
37.5°	35.4
40°	23.2
42.5°	15.5
45°	12.2
47.5°	8.8
50°	6.6
52.5°	5.5
55°	5.5
57.5°	4.4
60°	3.3
62.5°	3.3
65°	2.2
67.5°	2.2
70°	2.2
72.5°	1.1
75°	1.1
77.5°	1.1
80°	1.1
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

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



— 0°-180°

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)