

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: P886888

Luminaire Tested: ML412LSFL95FS1E-TIR4D25NFL-TL4SDSL-1020LM-4000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P886888
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-49)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFL95FS1E-TIR4D25NFL-TL4SDSL-1020LM-4000K
Description: 4IN SQUARE 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: 1153.4 lumens
Efficiency: N/A
Efficacy: 65.5 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

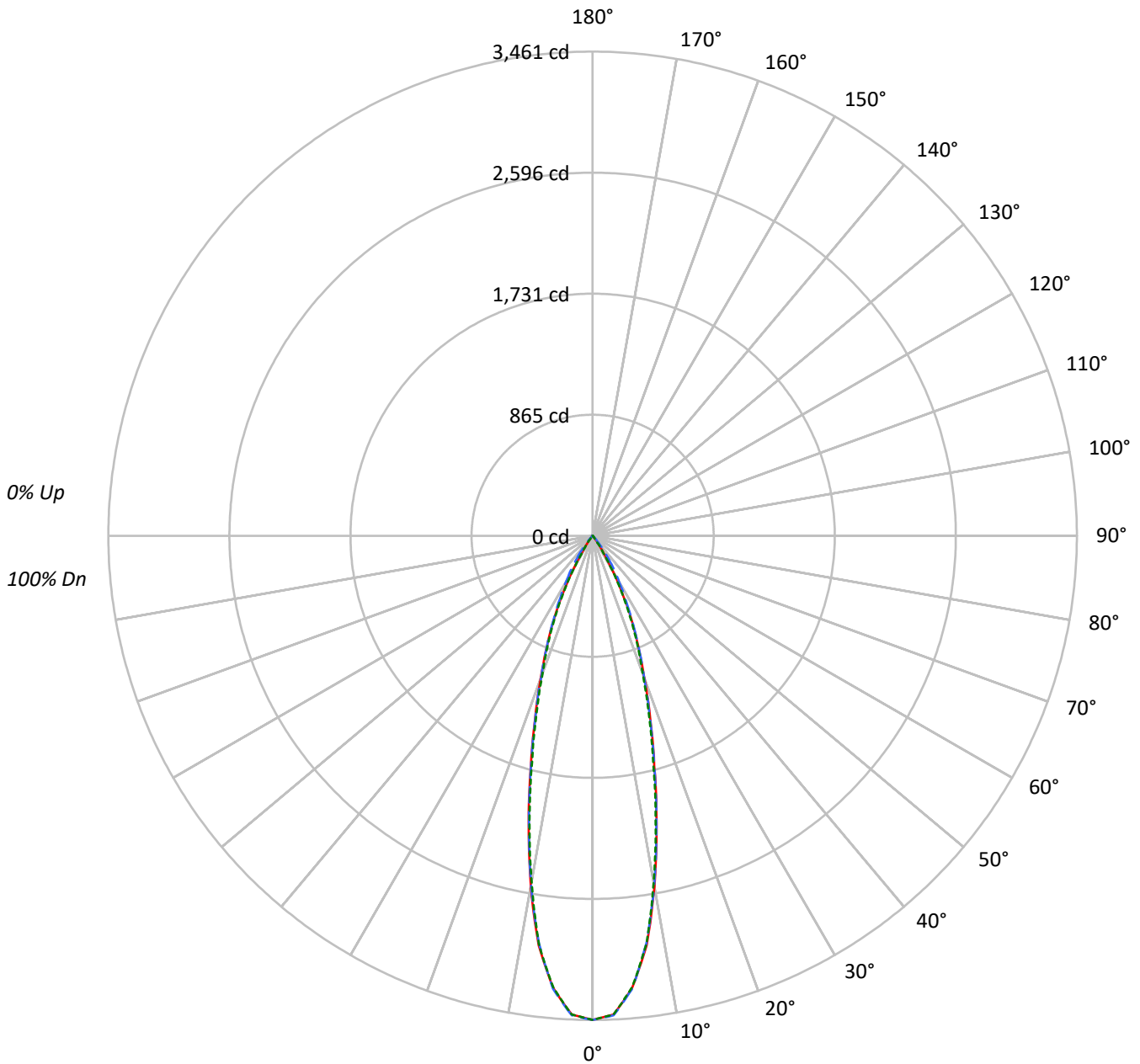
Input Watts (W): 17.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	335266	335266	335266
5°	315494	316087	314988
10°	250243	249476	247253
15°	170899	170287	167680
20°	111402	110680	107474
25°	69500	70430	66261
30°	30415	42228	27898
35°	8089	22529	7167
40°	1859	7449	1758
45°	945	1658	836
50°	527	784	527
55°	439	439	439
60°	329	329	329
65°	390	390	390
70°	255	255	255
75°	337	337	337
80°	502	502	502
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 1658 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	286.9	24.9
10°-20°	471.9	40.9
20°-30°	298.5	25.9
30°-40°	82.5	7.2
40°-50°	8.5	0.7
50°-60°	2.4	0.2
60°-70°	1.5	0.1
70°-80°	1.0	0.1
80°-90°	0.2	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°	1057.3	91.7
0°-40°	1139.8	98.8
0°-60°	1150.7	99.8
0°-90°	1153.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1153.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3461	3461	3461	3461	3461	
5°	3244	3250	3250	3232	3239	287
15°	1704	1716	1698	1676	1672	474
25°	650	660	659	640	620	292
35°	68	105	190	98	61	57
45°	7	8	12	7	6	6
55°	3	3	3	3	3	2
65°	2	2	2	2	2	1
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3460.8	3460.8	3460.8	3460.8	3460.8
2.5°	3425.3	3430.5	3431.3	3430.5	3425.3
5°	3244.3	3250.4	3250.4	3232.2	3239.1
7.5°	2953.4	2939.5	2937.8	2930.9	2942.1
10°	2543.9	2551.6	2536.1	2536.9	2513.5
12.5°	2110.1	2116.1	2103.1	2087.6	2081.5
15°	1704.0	1716.1	1697.9	1676.3	1671.9
17.5°	1367.2	1389.7	1360.2	1340.3	1334.3
20°	1080.6	1090.1	1073.6	1052.0	1042.5
22.5°	847.7	849.4	852.9	831.2	826.9
25°	650.2	659.8	658.9	639.9	619.9
27.5°	447.6	499.6	503.1	480.5	432.9
30°	271.9	328.2	377.5	310.8	249.4
32.5°	142.9	202.6	282.3	184.4	127.3
35°	68.4	104.8	190.5	97.8	60.6
37.5°	25.1	49.4	115.2	45.0	24.2
40°	14.7	19.9	58.9	19.0	13.9
42.5°	9.5	12.1	29.4	11.3	9.5
45°	6.9	7.8	12.1	6.9	6.1
47.5°	4.3	5.2	6.9	5.2	4.3
50°	3.5	3.5	5.2	3.5	3.5
52.5°	2.6	2.6	3.5	2.6	2.6
55°	2.6	2.6	2.6	2.6	2.6
57.5°	1.7	2.6	2.6	2.6	1.7
60°	1.7	1.7	1.7	1.7	1.7
62.5°	1.7	1.7	1.7	1.7	1.7
65°	1.7	1.7	1.7	1.7	1.7
67.5°	0.9	1.7	1.7	1.7	0.9
70°	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.9	0.9	0.9	0.9	0.9
82.5°	0.0	0.0	0.9	0.9	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0

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

Scaled Data Report



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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