

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: P887100

Luminaire Tested: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMW-600LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887100
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-48)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMW-600LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 2700K CCT
Ballast/Driver: -

Summary

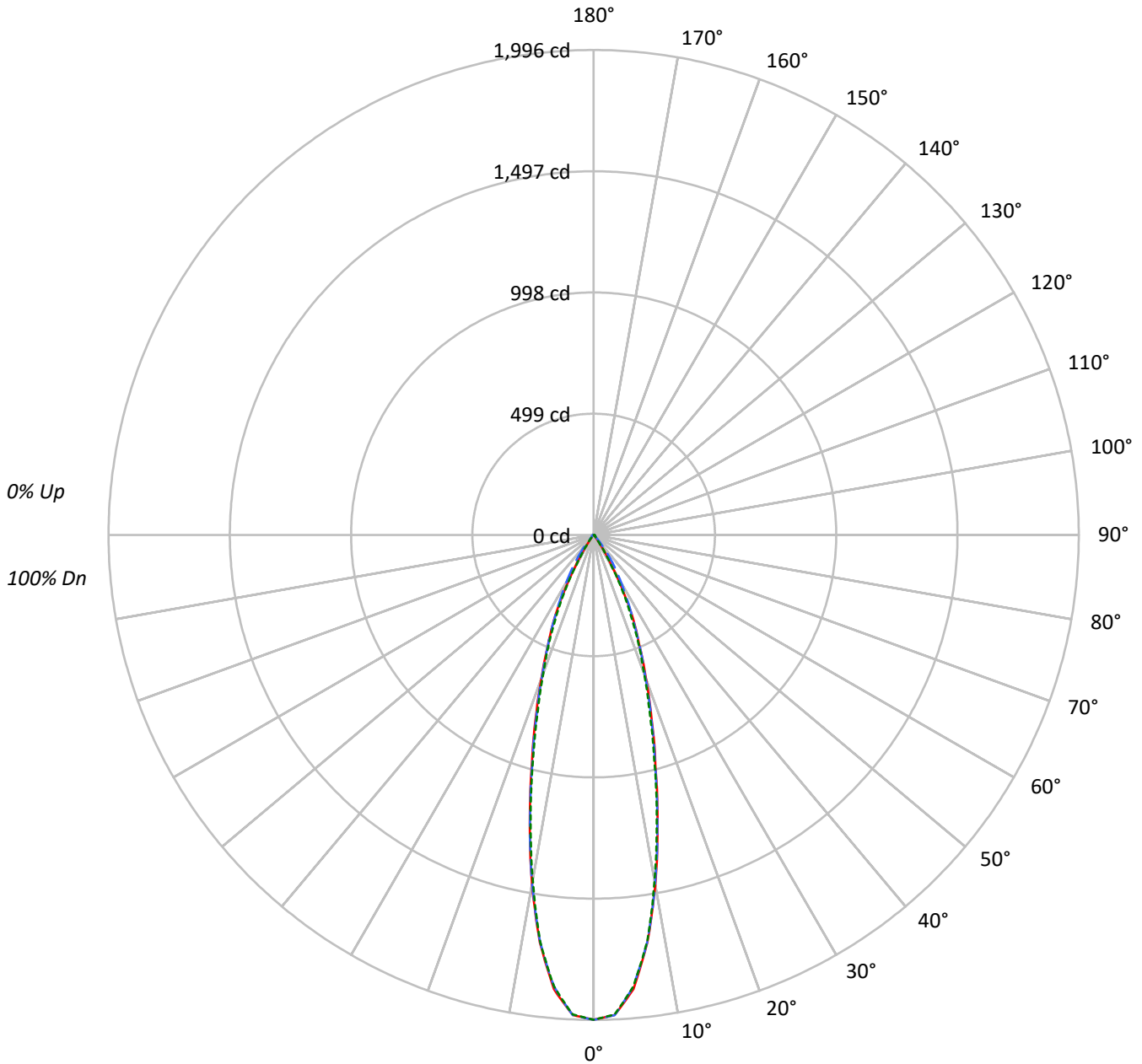
Lumens per Lamp: N/A
Luminaire Lumens: 687.9 lumens
Efficiency: N/A
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 0.49 / 0.49 / 0.52
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.4
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	90	87	100	94	90	86	92	88	85	90	87	84	88	86	84	82																			
5	98	91	86	82	96	90	85	82	88	84	81	87	83	81	85	82	80	79																			
6	94	87	82	78	93	86	81	78	85	81	78	83	80	77	82	79	77	75																			
7	91	83	78	75	89	82	78	75	81	77	74	80	77	74	79	76	73	72																			
8	87	80	75	72	86	79	75	71	78	74	71	77	74	71	76	73	71	69																			
9	85	77	72	69	84	76	72	69	75	71	68	75	71	68	74	70	68	67																			
10	82	74	69	66	81	74	69	66	73	69	66	72	68	66	71	68	66	64																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	193315	193315	193315
5°	182491	181548	181499
10°	143718	143364	142046
15°	98548	97826	96843
20°	64753	63907	62423
25°	41463	40853	37946
30°	17842	25035	16052
35°	4932	13813	4683
40°	1758	5071	1695
45°	1343	1836	1274
50°	1236	1402	1160
55°	1216	1301	1216
60°	1201	1298	1201
65°	1169	1307	1169
70°	1161	1303	1161
75°	1160	1347	1160
80°	1172	1450	1172
85°	1112	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1836 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.2	24.0
10°-20°	271.8	39.5
20°-30°	173.8	25.3
30°-40°	50.7	7.4
40°-50°	9.5	1.4
50°-60°	6.6	1.0
60°-70°	5.5	0.8
70°-80°	3.7	0.5
80°-90°	1.2	0.2
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°	610.8	88.8
0°-40°	661.5	96.2
0°-60°	677.6	98.5
0°-90°	687.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	687.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1996	1996	1996	1996	1996	
5°	1877	1875	1867	1867	1866	165
15°	983	979	975	969	966	274
25°	388	386	382	373	355	172
35°	42	66	117	61	40	35
45°	10	10	13	10	9	8
55°	7	7	8	7	7	6
65°	5	6	6	6	5	5
75°	3	4	4	4	3	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1995.5	1995.5	1995.5	1995.5	1995.5
2.5°	1977.5	1979.5	1978.5	1972.8	1975.9
5°	1876.6	1874.6	1866.9	1867.4	1866.4
7.5°	1692.5	1692.0	1689.4	1690.4	1687.3
10°	1461.0	1471.3	1457.4	1457.4	1444.0
12.5°	1215.1	1217.7	1211.5	1204.3	1198.1
15°	982.6	979.0	975.4	968.7	965.6
17.5°	794.3	793.8	785.0	776.8	765.5
20°	628.1	626.6	619.9	616.8	605.5
22.5°	492.8	499.0	491.8	480.0	476.9
25°	387.9	385.8	382.2	373.0	355.0
27.5°	269.0	290.7	294.8	277.8	249.5
30°	159.5	193.4	223.8	184.7	143.5
32.5°	89.5	119.3	168.7	111.1	77.2
35°	41.7	66.4	116.8	61.2	39.6
37.5°	19.0	32.4	71.0	31.9	20.6
40°	13.9	16.5	40.1	17.5	13.4
42.5°	11.3	12.3	22.6	12.3	10.8
45°	9.8	10.3	13.4	10.3	9.3
47.5°	8.2	9.3	10.3	8.7	8.2
50°	8.2	8.2	9.3	8.2	7.7
52.5°	7.7	7.7	8.2	7.7	7.7
55°	7.2	7.2	7.7	7.2	7.2
57.5°	6.7	6.7	7.2	6.7	6.7
60°	6.2	6.7	6.7	6.2	6.2
62.5°	5.7	6.2	6.2	6.2	5.7
65°	5.1	5.7	5.7	5.7	5.1
67.5°	4.6	5.1	5.1	5.1	4.6
70°	4.1	4.6	4.6	4.6	4.1
72.5°	3.6	4.1	4.1	4.1	3.6
75°	3.1	3.6	3.6	3.6	3.1
77.5°	2.6	3.1	3.1	3.1	2.6
80°	2.1	2.6	2.6	2.6	2.1
82.5°	1.5	1.5	1.5	2.1	1.5
85°	1.0	1.0	1.0	1.0	1.0
87.5°	0.5	0.5	0.5	0.5	0.5
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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