

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: P887099

Luminaire Tested: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMB-600LM-3000K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887099
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D25NFL-TL4SDMB-600LM-3000K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 703.8 lumens
Efficiency: N/A
Efficacy: 74.9 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

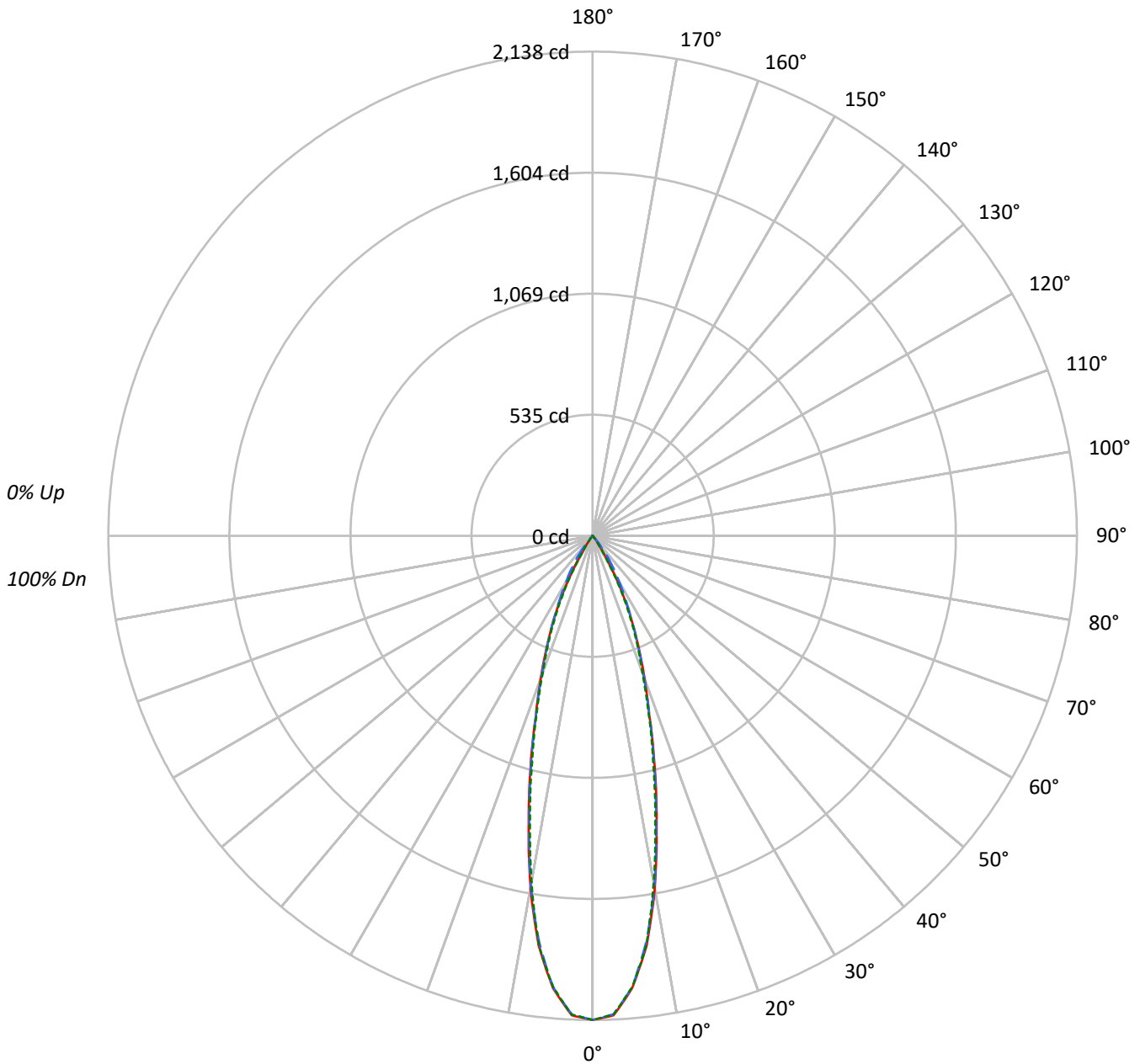
Input Watts (W): 9.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	207100	207100	207100
5°	195045	194559	194510
10°	155533	154559	152867
15°	106290	105177	103633
20°	68907	67938	66051
25°	43023	42842	40779
30°	18368	26220	16511
35°	4317	14322	4056
40°	696	4338	696
45°	233	836	151
50°	0	166	0
55°	0	0	0
60°	0	0	0
65°	0	0	0
70°	0	0	0
75°	0	0	0
80°	0	0	0
85°	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 836 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.1	25.2
10°-20°	290.1	41.2
20°-30°	183.5	26.1
30°-40°	49.6	7.0
40°-50°	3.5	0.5
50°-60°	0.1	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°	650.7	92.4
0°-40°	700.2	99.5
0°-60°	703.8	100.0
0°-90°	703.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	703.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2138	2138	2138	2138	2138	
5°	2006	2004	2001	2002	2000	178
15°	1060	1053	1049	1030	1033	293
25°	402	406	401	396	382	181
35°	36	64	121	57	34	32
45°	2	2	6	2	1	1
55°	0	0	0	0	0	0
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2137.8	2137.8	2137.8	2137.8	2137.8
2.5°	2120.1	2118.5	2114.6	2116.8	2115.7
5°	2005.7	2003.5	2000.7	2002.4	2000.2
7.5°	1825.5	1815.0	1810.0	1811.7	1821.6
10°	1581.1	1565.6	1571.2	1548.5	1554.0
12.5°	1304.1	1297.5	1295.3	1290.9	1277.1
15°	1059.8	1053.2	1048.7	1029.9	1033.3
17.5°	834.2	840.9	833.7	826.5	821.0
20°	668.4	662.9	659.0	650.1	640.7
22.5°	525.8	524.1	520.2	510.3	507.5
25°	402.5	405.8	400.8	396.4	381.5
27.5°	279.2	306.8	310.1	294.7	263.7
30°	164.2	200.7	234.4	194.0	147.6
32.5°	85.7	120.0	174.1	112.8	74.1
35°	36.5	63.6	121.1	56.9	34.3
37.5°	11.6	27.6	68.6	24.9	12.2
40°	5.5	8.8	34.3	9.4	5.5
42.5°	2.8	4.4	16.6	4.4	2.8
45°	1.7	2.2	6.1	2.2	1.1
47.5°	0.6	1.1	2.2	1.1	0.6
50°	0.0	0.6	1.1	0.6	0.0
52.5°	0.0	0.0	0.6	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	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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