

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: P887112

Luminaire Tested: ML412LSFLD2W1E-TIR4D40FL-TL4SDMW-600LM-2700K

Issue Date: 7/9/2024

Test Information

Test Method: LM-79-2019
Report Number: P887112
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-51)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/9/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML412LSFLD2W1E-TIR4D40FL-TL4SDMW-600LM-2700K
Description: 4IN SQUARE ML FLEX, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 788.8 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Spacing Criteria (0/90/45): 0.7 / 0.69 / 0.65
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

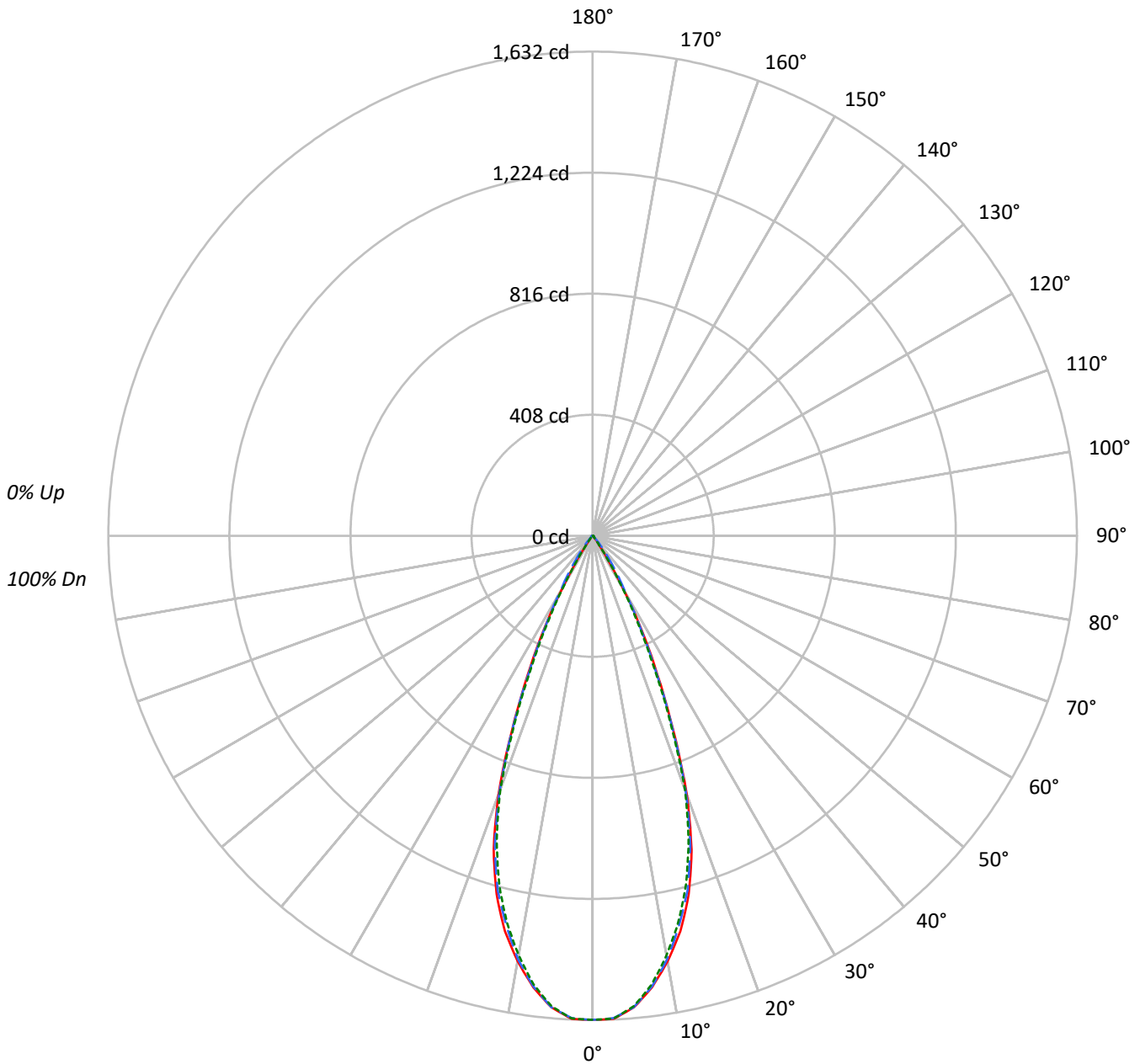
Input Watts (W): 9.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	103	99	95	92	96	93	90	94	91	89	91	89	87	86								
4	101	95	90	87	100	94	89	86	92	88	85	90	87	84	88	85	83	82								
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	78								
6	94	86	81	78	92	85	81	77	84	80	77	83	79	76	82	78	76	75								
7	90	82	77	74	89	82	77	74	81	76	73	79	76	73	78	75	73	71								
8	87	79	74	71	86	78	74	70	77	73	70	76	73	70	76	72	70	68								
9	84	76	71	67	83	75	71	67	74	70	67	74	70	67	73	69	67	66								
10	81	73	68	65	80	72	68	65	72	67	64	71	67	64	70	67	64	63								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	158052	158052	158052
5°	155155	155107	154756
10°	143187	142479	141161
15°	125456	123962	121996
20°	95711	94546	93752
25°	55091	53937	51959
30°	22674	24968	21287
35°	4683	11744	4435
40°	1366	4553	1492
45°	849	1480	849
50°	769	934	769
55°	861	861	777
60°	794	891	794
65°	825	825	825
70°	878	878	878
75°	786	973	786
80°	837	837	837
85°	1112	1112	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 1480 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	18.7
10°-20°	336.6	42.7
20°-30°	235.4	29.8
30°-40°	50.7	6.4
40°-50°	7.1	0.9
50°-60°	4.4	0.6
60°-70°	3.7	0.5
70°-80°	2.5	0.3
80°-90°	0.9	0.1
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°	719.4	91.2
0°-40°	770.1	97.6
0°-60°	781.7	99.1
0°-90°	788.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	788.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1632	1632	1632	1632	1632	
5°	1596	1596	1595	1591	1591	148
15°	1251	1244	1236	1218	1216	341
25°	515	509	505	496	486	239
35°	40	63	99	57	38	39
45°	6	7	11	7	6	5
55°	5	5	5	5	5	4
65°	4	4	4	4	4	4
75°	2	3	3	3	2	2
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°	1631.5	1631.5	1631.5	1631.5	1631.5
2.5°	1630.0	1628.9	1627.4	1627.4	1628.4
5°	1595.5	1596.5	1595.0	1590.9	1591.4
7.5°	1534.8	1538.4	1531.7	1529.2	1525.0
10°	1455.6	1454.6	1448.4	1439.7	1435.0
12.5°	1365.6	1361.5	1345.0	1336.8	1334.2
15°	1250.9	1243.7	1236.0	1218.5	1216.4
17.5°	1108.9	1105.3	1094.5	1079.6	1074.5
20°	928.4	928.9	917.1	904.7	909.4
22.5°	710.8	721.1	707.2	695.4	690.3
25°	515.4	508.7	504.6	496.3	486.1
27.5°	357.5	351.3	343.6	339.5	324.0
30°	202.7	224.8	223.2	209.9	190.3
32.5°	96.2	128.1	152.2	115.2	88.5
35°	39.6	62.8	99.3	57.1	37.5
37.5°	19.0	28.8	62.2	28.3	18.5
40°	10.8	15.4	36.0	14.9	11.8
42.5°	7.7	8.7	19.5	8.7	7.7
45°	6.2	6.7	10.8	6.7	6.2
47.5°	5.7	5.7	7.2	5.7	5.7
50°	5.1	5.7	6.2	5.1	5.1
52.5°	5.1	5.1	5.7	5.1	5.1
55°	5.1	5.1	5.1	5.1	4.6
57.5°	4.6	4.6	4.6	4.6	4.6
60°	4.1	4.6	4.6	4.1	4.1
62.5°	4.1	4.1	4.1	4.1	3.6
65°	3.6	3.6	3.6	3.6	3.6
67.5°	3.1	3.6	3.6	3.6	3.1
70°	3.1	3.1	3.1	3.1	3.1
72.5°	2.6	2.6	2.6	2.6	2.6
75°	2.1	2.6	2.6	2.6	2.1
77.5°	2.1	2.1	2.1	2.1	2.1
80°	1.5	1.5	1.5	1.5	1.5
82.5°	1.0	1.5	1.0	1.0	1.0
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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