

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P990839

Luminaire Tested: **ML3ALSFLD2W1E-TIR4D40FL-TL3SDSL-600LM-3000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

Test Information

Test Method: LM-79-08
 Report Number: P990839
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFLD2W1E-TIR4D40FL-TL3SDSL-600LM-3000K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR,
 METALLIC SILVER TRIM
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 720.1 lumens
 Efficiency: N/A
 Efficacy: 76.6 lumens/watt
 Spacing Criteria (0/90/45): 0.63 / 0.63 / 0.64
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

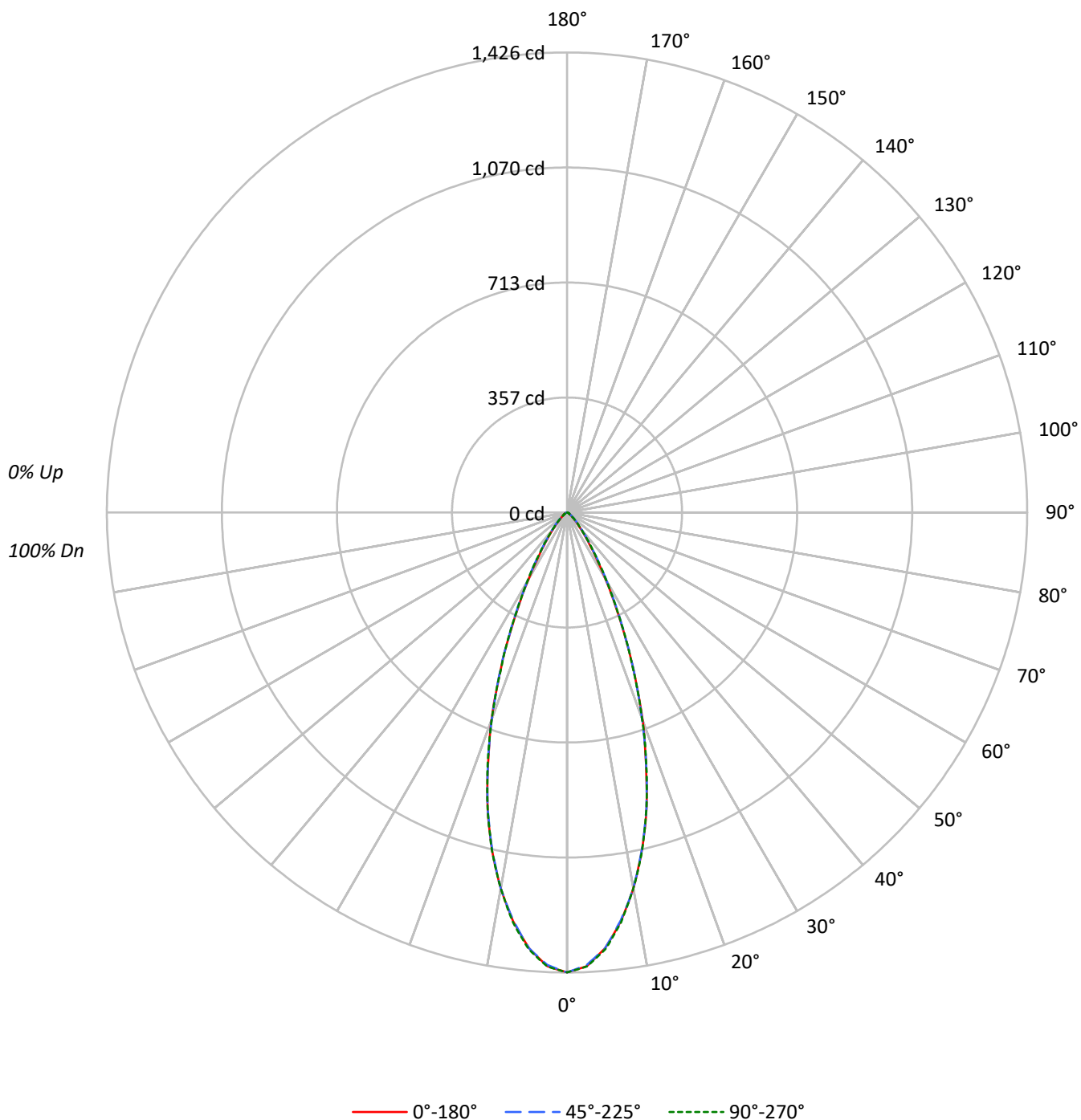
Input Watts (W): 9.4
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	GONIO 1 IN0055	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	114	111	109	107	111	109	107	105	105	103	102		101	100	99		98
2	109	104	101	97	107	103	99	96	99	97	94		96	94	92		94
3	104	98	93	90	102	97	92	89	94	91	88		92	89	86		89
4	99	92	87	83	98	91	87	83	89	85	82		87	84	81		85
5	95	87	82	78	93	86	82	78	85	80	77		83	79	76		82
6	91	83	77	74	90	82	77	73	81	76	73		79	75	72		78
7	87	79	73	69	86	78	73	69	77	72	69		76	72	69		75
8	84	75	70	66	82	74	69	66	73	69	65		72	68	65		71
9	80	72	66	63	79	71	66	63	70	66	62		69	65	62		69
10	77	68	63	60	76	68	63	60	67	63	59		66	62	59		66

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	245503	245503	245503
5°	234340	234340	234996
10°	206935	206935	206935
15°	169668	169330	169330
20°	125507	124811	124811
25°	81236	81426	81787
30°	47211	48722	48722
35°	26049	28047	28047
40°	14883	16367	15940
45°	8744	9913	9450
50°	5332	6591	5573
55°	3693	4534	3693
60°	2618	3272	2928
65°	2323	2690	2323
70°	1913	2367	1913
75°	1264	1863	1264
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.9	17.2
10°-20°	259.8	36.1
20°-30°	197.8	27.5
30°-40°	85.7	11.9
40°-50°	32.0	4.4
50°-60°	12.7	1.8
60°-70°	6.1	0.8
70°-80°	2.1	0.3
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°	581.5	80.7
0°-40°	667.2	92.7
0°-60°	711.9	98.9
0°-90°	720.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	720.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1356	1354	1356	1354	1359	124
15°	952	949	950	949	950	260
25°	428	428	428	431	430	197
35°	124	129	133	135	133	82
45°	36	38	41	40	39	30
55°	12	13	15	13	12	11
65°	6	6	7	6	6	6
75°	2	2	3	2	2	2
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°	1425.5	1425.5	1425.5	1425.5	1425.5
2.5°	1407.5	1405.6	1403.7	1405.6	1408.4
5°	1355.5	1354.5	1355.5	1354.5	1359.3
7.5°	1277.9	1279.8	1275.1	1278.8	1281.7
10°	1183.3	1184.3	1183.3	1183.3	1183.3
12.5°	1072.6	1072.6	1070.8	1070.8	1074.5
15°	951.6	948.7	949.7	948.7	949.7
17.5°	812.5	817.3	814.4	814.4	817.3
20°	684.8	682.9	681.0	682.9	681.0
21°	630.0	628.1	627.1	630.0	627.1
22°	574.2	576.0	575.1	571.3	575.1
23°	524.0	525.9	525.9	522.1	520.2
24°	476.7	474.8	478.6	476.7	476.7
25°	427.5	427.5	428.5	431.3	430.4
26°	384.0	385.0	387.8	385.9	385.9
27°	340.5	344.3	347.1	345.3	346.2
28°	305.5	306.5	311.2	309.3	309.3
29°	270.5	271.5	276.2	278.1	275.3
30°	237.4	242.1	245.0	245.9	245.0
31°	210.9	212.8	218.5	218.5	217.6
32°	183.5	188.2	193.0	193.9	193.0
33°	160.8	165.5	171.2	171.2	170.3
34°	141.9	144.7	151.3	151.3	149.5
35°	123.9	128.6	133.4	135.3	133.4
36°	110.7	111.6	118.2	119.2	117.3
37°	96.5	99.3	104.0	105.0	103.1
38°	85.1	88.0	92.7	92.7	91.8
39°	74.7	77.6	81.3	82.3	80.4
40°	66.2	68.1	72.8	72.8	70.9
42.5°	49.2	51.1	54.9	53.9	53.0
45°	35.9	37.8	40.7	39.7	38.8
47.5°	27.4	29.3	31.2	30.3	29.3
50°	19.9	21.8	24.6	22.7	20.8
52.5°	15.1	17.0	18.9	17.0	16.1
55°	12.3	13.2	15.1	13.2	12.3
57.5°	9.5	10.4	12.3	11.4	10.4
60°	7.6	8.5	9.5	8.5	8.5
62.5°	6.6	6.6	8.5	7.6	6.6
65°	5.7	5.7	6.6	5.7	5.7
67.5°	4.7	4.7	5.7	4.7	4.7
70°	3.8	3.8	4.7	3.8	3.8
72.5°	2.8	2.8	3.8	2.8	2.8
75°	1.9	1.9	2.8	1.9	1.9
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
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

(END OF REPORT)