

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: P990833

Luminaire Tested: **ML3ALSFLD2W1E-TIR4D40FL-TL3SDMB-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: P990833
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFLD2W1E-TIR4D40FL-TL3SDMB-600LM-3000K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

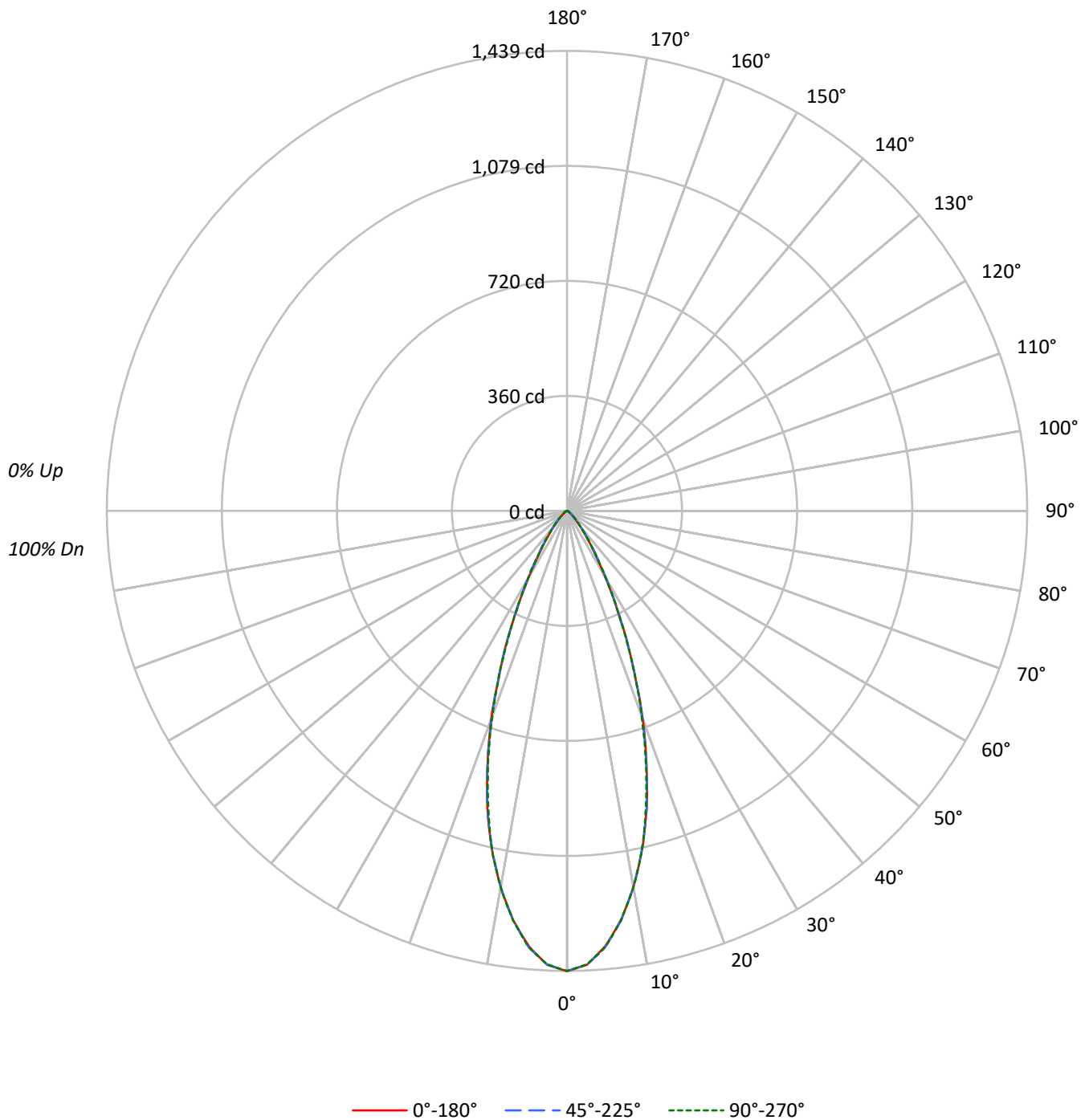
Lumens per Lamp: N/A
 Luminaire Lumens: 722.3 lumens
 Efficiency: N/A
 Efficacy: 76.8 lumens/watt
 Spacing Criteria (0/90/45): 0.63 / 0.62 / 0.63
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

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	112	109	107	105	105	104	102		101	100	99		98
2	109	104	101	98	107	103	99	96	99	97	94		97	94	92		94
3	104	98	94	90	102	97	93	89	94	91	88		92	89	86		90
4	99	93	88	84	98	91	87	83	89	85	82		87	84	81		86
5	95	88	82	78	94	87	82	78	85	81	77		83	80	77		82
6	91	83	78	74	90	82	77	74	81	76	73		80	76	73		78
7	87	79	74	70	86	78	73	70	77	73	69		76	72	69		75
8	84	75	70	66	83	75	70	66	74	69	66		73	69	65		72
9	80	72	67	63	79	71	66	63	70	66	63		70	65	62		69
10	77	69	63	60	76	68	63	60	67	63	60		67	63	60		66

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	247880	247880	247880
5°	236397	236881	236881
10°	209033	208859	209033
15°	171647	171469	169954
20°	126863	126167	124957
25°	82662	82662	81578
30°	47768	48901	48702
35°	26449	27836	27437
40°	14883	16165	15737
45°	8744	9669	9207
50°	5064	6082	5573
55°	3393	4264	3393
60°	2618	2928	2618
65°	1915	2323	1915
70°	1410	1913	1410
75°	599	1264	599
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	17.3
10°-20°	262.6	36.4
20°-30°	199.3	27.6
30°-40°	85.1	11.8
40°-50°	31.1	4.3
50°-60°	11.8	1.6
60°-70°	5.4	0.8
70°-80°	1.8	0.2
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°	587.0	81.3
0°-40°	672.2	93.1
0°-60°	715.1	99.0
0°-90°	722.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	722.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1439	1439	1439	1439	1439	
5°	1367	1367	1370	1369	1370	125
15°	963	961	962	959	953	263
25°	435	435	435	432	429	199
35°	126	127	132	131	130	82
45°	36	37	40	39	38	29
55°	11	12	14	12	11	11
65°	5	5	6	6	5	5
75°	1	2	2	2	1	1
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°	1439.3	1439.3	1439.3	1439.3	1439.3
2.5°	1421.3	1420.4	1420.4	1420.4	1419.4
5°	1367.4	1367.4	1370.2	1369.3	1370.2
7.5°	1290.8	1291.7	1291.7	1291.7	1291.7
10°	1195.3	1197.2	1194.3	1197.2	1195.3
12.5°	1085.6	1085.6	1082.8	1084.7	1085.6
15°	962.7	960.8	961.7	958.9	953.2
17.5°	826.5	825.5	824.6	821.8	818.9
20°	692.2	692.2	688.4	687.5	681.8
21°	636.4	637.4	635.5	630.7	629.8
22°	577.8	582.5	579.7	579.7	576.8
23°	527.7	529.6	528.6	528.6	529.6
24°	481.3	481.3	481.3	477.5	478.5
25°	435.0	435.0	435.0	432.2	429.3
26°	385.8	388.7	391.5	387.7	387.7
27°	343.3	346.1	350.8	348.0	345.2
28°	310.2	307.3	312.1	310.2	312.1
29°	272.3	274.2	278.0	275.2	275.2
30°	240.2	242.1	245.9	244.0	244.9
31°	209.0	214.7	217.5	217.5	217.5
32°	185.3	188.2	191.0	191.0	190.1
33°	162.7	165.5	170.2	168.3	168.3
34°	142.8	145.6	150.4	150.4	148.5
35°	125.8	126.7	132.4	131.4	130.5
36°	109.7	110.6	117.3	117.3	116.3
37°	96.5	98.3	104.0	103.1	102.1
38°	85.1	86.1	91.7	91.7	89.8
39°	74.7	76.6	80.4	80.4	79.4
40°	66.2	67.1	71.9	70.9	70.0
42.5°	47.3	50.1	53.0	53.0	51.1
45°	35.9	36.9	39.7	38.8	37.8
47.5°	26.5	27.4	30.3	29.3	27.4
50°	18.9	20.8	22.7	21.7	20.8
52.5°	14.2	16.1	18.0	16.1	15.1
55°	11.3	12.3	14.2	12.3	11.3
57.5°	8.5	9.5	11.3	9.5	9.5
60°	7.6	7.6	8.5	7.6	7.6
62.5°	5.7	6.6	7.6	6.6	5.7
65°	4.7	4.7	5.7	5.7	4.7
67.5°	3.8	4.7	4.7	4.7	3.8
70°	2.8	3.8	3.8	3.8	2.8
72.5°	1.9	2.8	2.8	2.8	1.9
75°	0.9	1.9	1.9	1.9	0.9
77.5°	0.0	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)