

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: P990999

Luminaire Tested: **ML4ALSFLD2W1E-TIR4D55WFL-TL4SDMW-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: P990999
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4ALSFLD2W1E-TIR4D55WFL-TL4SDMW-600LM-3000K
 Description: 4IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

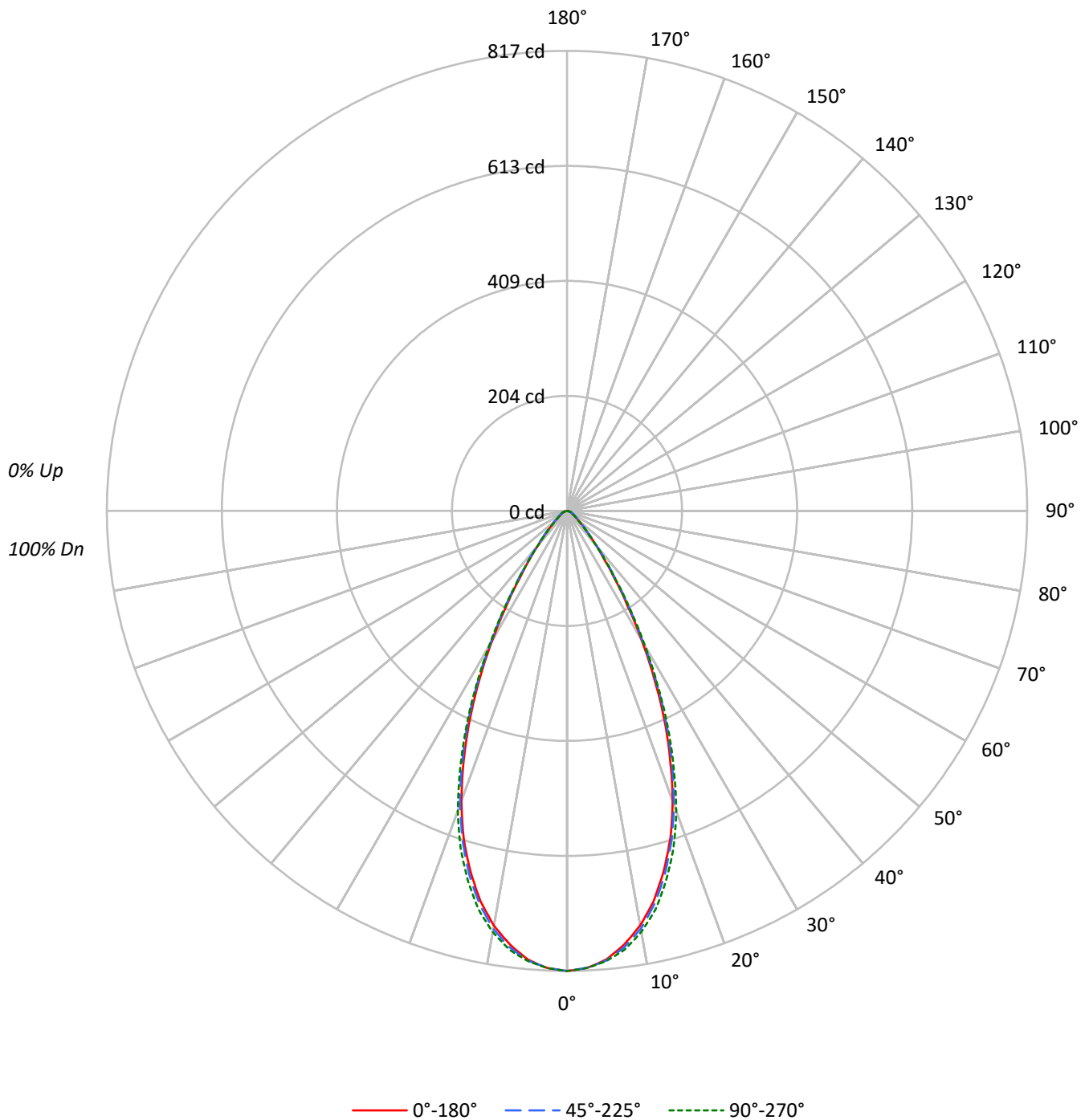
Lumens per Lamp: N/A
 Luminaire Lumens: 618.3 lumens
 Efficiency: N/A
 Efficacy: 74.5 lumens/watt
 Spacing Criteria (0/90/45): 0.79 / 0.81 / 0.78
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 8.3
 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	113	110	108	106	111	108	106	104	104	102	101		101	99	98		97
2	108	103	98	95	105	101	97	94	98	94	92		95	92	90		92
3	102	96	90	86	100	94	89	86	91	88	84		89	86	83		87
4	97	89	84	79	95	88	83	79	86	81	78		84	80	77		82
5	92	84	78	73	90	83	77	73	81	76	72		79	75	72		78
6	88	79	73	68	86	78	72	68	76	71	68		75	71	67		74
7	83	74	68	64	82	73	68	64	72	67	63		71	66	63		70
8	79	70	64	60	78	69	64	60	68	63	60		67	63	59		66
9	76	66	60	57	75	66	60	56	65	60	56		64	59	56		63
10	73	63	57	53	72	62	57	53	62	57	53		61	56	53		60

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	79157	79157	79157
5°	77777	77962	78030
10°	73561	74132	74692
15°	66434	67146	68179
20°	56515	57237	58433
25°	43633	44595	45279
30°	29588	30371	30952
35°	17609	18449	18449
40°	10231	10800	10231
45°	6151	6590	5891
50°	3964	4356	3768
55°	2821	3260	2821
60°	2364	2732	2364
65°	2201	2499	2201
70°	2011	2351	2011
75°	1684	2171	1460
80°	335	1060	335
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	75.0	12.1
10°-20°	185.6	30.0
20°-30°	188.2	30.4
30°-40°	100.1	16.2
40°-50°	37.6	6.1
50°-60°	16.6	2.7
60°-70°	10.2	1.6
70°-80°	4.9	0.8
80°-90°	0.3	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°	448.7	72.6
0°-40°	548.8	88.7
0°-60°	602.9	97.5
0°-90°	618.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	618.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	817	817	817	817	817	
5°	800	799	802	803	802	75
15°	662	664	670	678	680	184
25°	408	412	417	422	424	184
35°	149	150	156	158	156	97
45°	45	46	48	46	43	37
55°	17	18	19	17	17	16
65°	10	10	11	10	10	10
75°	4	4	6	4	4	4
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°	817.1	817.1	817.1	817.1	817.1
2.5°	812.6	811.3	812.0	813.3	812.6
5°	799.8	799.1	801.7	803.0	802.4
7.5°	776.7	778.0	781.2	785.0	785.7
10°	747.8	748.4	753.6	758.7	759.3
12.5°	709.9	711.2	715.7	721.5	725.3
15°	662.4	663.7	669.5	677.8	679.8
17.5°	609.8	609.8	615.6	623.3	628.4
20°	548.2	548.8	555.2	562.9	566.8
22.5°	478.8	480.8	486.5	493.6	495.5
25°	408.2	412.1	417.2	421.7	423.6
27.5°	334.4	337.6	344.1	346.6	347.3
30°	264.5	267.0	271.5	274.7	276.7
32.5°	200.9	202.2	209.3	211.8	211.2
35°	148.9	150.2	156.0	157.9	156.0
37.5°	109.1	111.7	116.2	116.2	112.3
40°	80.9	80.9	85.4	84.1	80.9
42.5°	59.7	60.3	63.5	61.6	59.1
45°	44.9	46.2	48.1	45.6	43.0
47.5°	34.0	35.3	36.6	34.7	32.1
50°	26.3	27.6	28.9	27.0	25.0
52.5°	20.5	21.8	23.1	21.2	19.9
55°	16.7	18.0	19.3	17.3	16.7
57.5°	14.1	14.8	16.0	14.8	14.1
60°	12.2	12.8	14.1	12.8	12.2
62.5°	10.9	11.6	12.2	11.6	10.9
65°	9.6	10.3	10.9	10.3	9.6
67.5°	8.3	9.0	9.6	9.0	8.3
70°	7.1	7.7	8.3	7.7	7.1
72.5°	5.8	6.4	7.1	6.4	5.8
75°	4.5	4.5	5.8	4.5	3.9
77.5°	1.9	3.2	3.9	2.6	1.9
80°	0.6	1.3	1.9	1.3	0.6
82.5°	0.6	0.6	0.6	0.6	0.6
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)