

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: P991001

Luminaire Tested: **ML4ALSFLD2W1E-TIR4D55WFL-TL4SDSL-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: P991001
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4ALSFLD2W1E-TIR4D55WFL-TL4SDSL-600LM-3000K
 Description: 4IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR,
 METALLIC SILVER TRIM
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

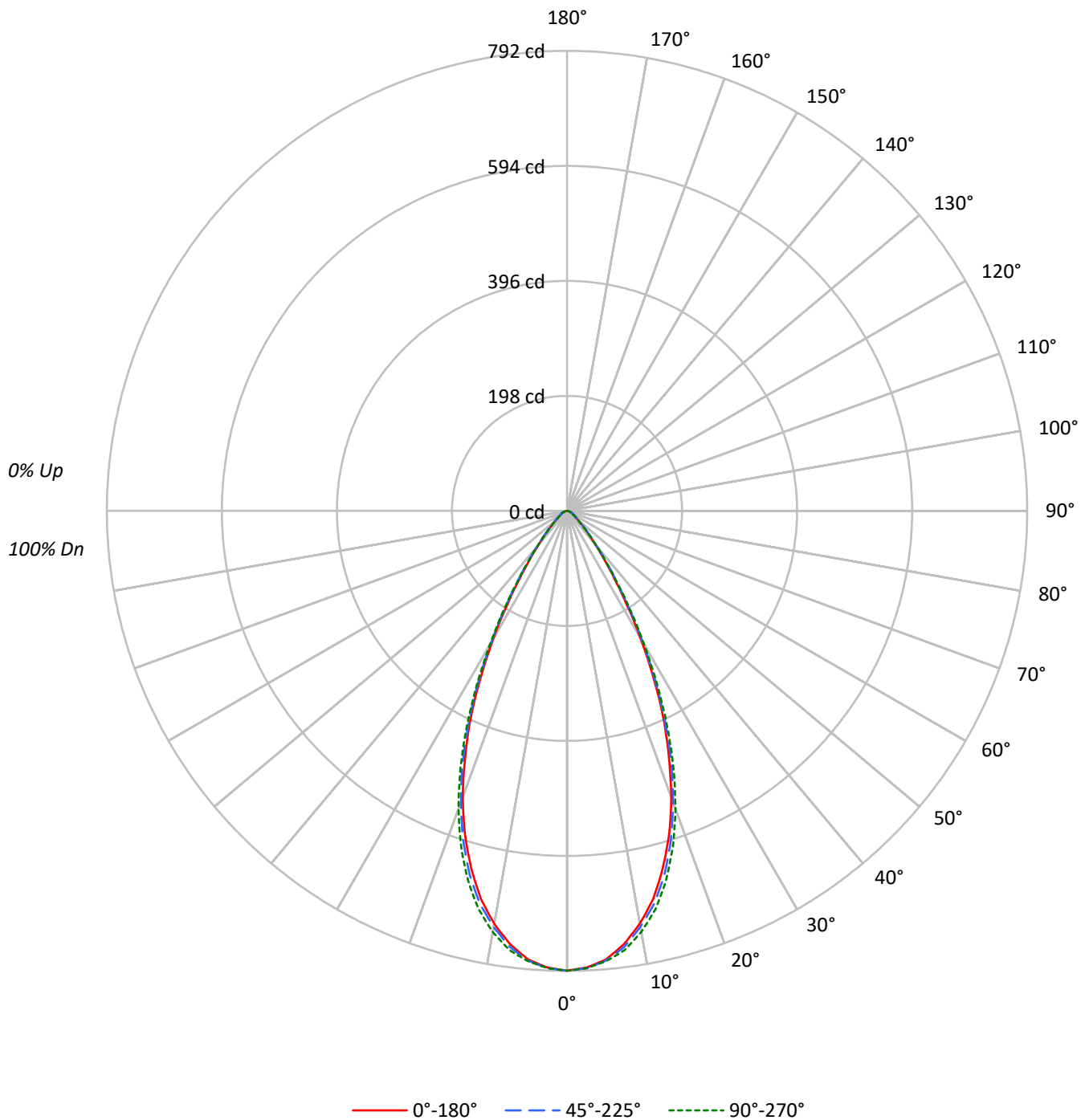
Lumens per Lamp: N/A
 Luminaire Lumens: 593.3 lumens
 Efficiency: N/A
 Efficacy: 71.5 lumens/watt
 Spacing Criteria (0/90/45): 0.78 / 0.8 / 0.78
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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	111	108	106	111	108	106	104	104	102	101		101	99	98		97
2	108	103	99	95	105	101	97	94	98	95	92		95	92	90		92
3	102	96	91	87	100	94	90	86	92	88	84		89	86	83		87
4	97	89	84	80	95	88	83	79	86	82	78		84	80	77		82
5	92	84	78	74	91	83	77	73	81	76	73		79	75	72		78
6	88	79	73	69	86	78	72	68	77	72	68		75	71	67		74
7	84	74	68	64	82	74	68	64	72	67	64		71	67	63		70
8	80	70	64	60	78	70	64	60	69	63	60		68	63	60		67
9	76	66	61	57	75	66	60	57	65	60	56		64	60	56		63
10	73	63	57	54	72	63	57	53	62	57	53		61	56	53		60

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	76687	76687	76687
5°	75346	75531	75647
10°	70984	71535	72390
15°	63866	64990	66043
20°	54103	55000	56278
25°	41880	42532	43462
30°	28245	29006	29565
35°	16687	17562	17491
40°	9700	10256	9940
45°	5932	6275	5686
50°	3738	4190	3632
55°	2719	3023	2719
60°	2286	2519	2286
65°	1994	2269	2132
70°	1756	2266	1926
75°	1385	1871	1385
80°	335	669	335
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.6	12.2
10°-20°	179.1	30.2
20°-30°	180.5	30.4
30°-40°	95.6	16.1
40°-50°	36.0	6.1
50°-60°	15.7	2.7
60°-70°	9.5	1.6
70°-80°	4.3	0.7
80°-90°	0.1	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°	432.1	72.8
0°-40°	527.7	88.9
0°-60°	579.4	97.7
0°-90°	593.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	593.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	792	792	792	792	792	
5°	775	774	777	778	778	72
15°	637	641	648	655	658	176
25°	392	394	398	405	407	177
35°	141	144	148	150	148	92
45°	43	44	46	44	42	35
55°	16	17	18	17	16	15
65°	9	9	10	10	9	9
75°	4	4	5	4	4	3
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°	791.6	791.6	791.6	791.6	791.6
2.5°	786.6	786.0	787.8	787.2	787.8
5°	774.8	774.2	776.7	777.9	777.9
7.5°	751.9	754.4	756.9	759.4	762.5
10°	721.6	724.1	727.2	732.8	735.9
12.5°	684.5	685.7	692.5	698.1	702.4
15°	636.8	641.2	648.0	654.8	658.5
17.5°	584.2	587.9	594.1	602.2	605.9
20°	524.8	527.3	533.5	542.8	545.9
22.5°	458.0	461.7	469.7	474.7	479.0
25°	391.8	393.6	397.9	405.4	406.6
27.5°	320.0	321.8	327.4	333.0	334.2
30°	252.5	256.2	259.3	263.6	264.3
32.5°	191.2	194.3	199.3	201.8	203.0
35°	141.1	144.2	148.5	150.4	147.9
37.5°	104.6	105.8	110.2	110.2	108.9
40°	76.7	78.6	81.1	80.5	78.6
42.5°	56.9	58.2	60.7	58.8	56.9
45°	43.3	43.9	45.8	43.9	41.5
47.5°	32.2	33.4	35.3	32.8	30.9
50°	24.8	26.0	27.8	25.4	24.1
52.5°	19.2	20.4	22.3	20.4	19.2
55°	16.1	16.7	17.9	16.7	16.1
57.5°	13.0	13.6	15.5	14.2	13.6
60°	11.8	11.8	13.0	12.4	11.8
62.5°	9.9	10.5	11.1	11.1	10.5
65°	8.7	9.3	9.9	9.9	9.3
67.5°	7.4	8.0	9.3	8.7	8.0
70°	6.2	6.8	8.0	7.4	6.8
72.5°	5.0	5.6	6.8	6.2	5.6
75°	3.7	4.3	5.0	4.3	3.7
77.5°	1.2	1.9	3.1	2.5	1.9
80°	0.6	0.6	1.2	0.6	0.6
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)