

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: P990764

Luminaire Tested: **ML3ALSFL9FS1E-TIR4D40FL-TL3SDMB-750LM-3500K**

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: P990764
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFL9FS1E-TIR4D40FL-TL3SDMB-750LM-3500K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
 Ballast/Driver: -

Summary

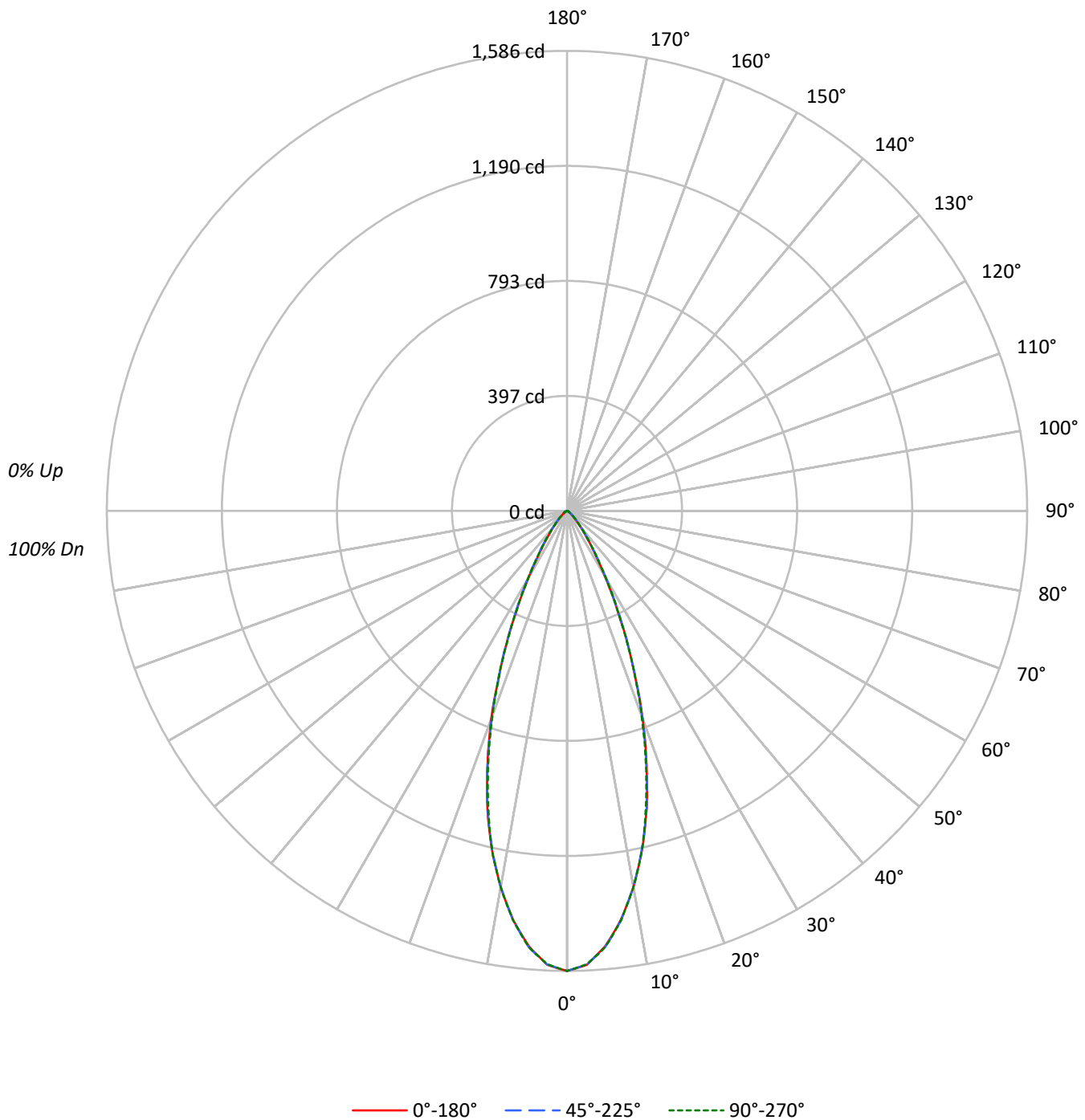
Lumens per Lamp: N/A
 Luminaire Lumens: 796.0 lumens
 Efficiency: N/A
 Efficacy: 82.1 lumens/watt
 Spacing Criteria (0/90/45): 0.63 / 0.62 / 0.63
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.7
 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°	273162	273162	273162
5°	260514	261050	261050
10°	230351	230176	230351
15°	189156	188960	187284
20°	139803	139033	137695
25°	91099	91099	89902
30°	52640	53873	53674
35°	29140	30675	30233
40°	16389	17806	17334
45°	9645	10668	10156
50°	5573	6698	6136
55°	3753	4684	3753
60°	2859	3238	2859
65°	2119	2567	2119
70°	1561	2115	1561
75°	665	1397	665
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.9	17.3
10°-20°	289.4	36.4
20°-30°	219.6	27.6
30°-40°	93.8	11.8
40°-50°	34.3	4.3
50°-60°	13.0	1.6
60°-70°	6.0	0.8
70°-80°	2.0	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°	646.9	81.3
0°-40°	740.7	93.1
0°-60°	788.0	99.0
0°-90°	796.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	796.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1586	1586	1586	1586	1586	
5°	1507	1507	1510	1509	1510	138
15°	1061	1059	1060	1057	1050	290
25°	479	479	479	476	473	219
35°	139	140	146	145	144	91
45°	40	41	44	43	42	32
55°	12	14	16	14	12	12
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°	1586.1	1586.1	1586.1	1586.1	1586.1
2.5°	1566.3	1565.2	1565.2	1565.2	1564.2
5°	1506.9	1506.9	1510.0	1509.0	1510.0
7.5°	1422.5	1423.5	1423.5	1423.5	1423.5
10°	1317.2	1319.3	1316.2	1319.3	1317.2
12.5°	1196.3	1196.3	1193.2	1195.3	1196.3
15°	1060.9	1058.8	1059.8	1056.7	1050.4
17.5°	910.8	909.7	908.7	905.6	902.5
20°	762.8	762.8	758.6	757.6	751.3
21°	701.3	702.4	700.3	695.1	694.0
22°	636.7	641.9	638.8	638.8	635.7
23°	581.5	583.6	582.5	582.5	583.6
24°	530.4	530.4	530.4	526.3	527.3
25°	479.4	479.4	479.4	476.2	473.1
26°	425.2	428.3	431.4	427.3	427.3
27°	378.3	381.4	386.6	383.5	380.4
28°	341.8	338.7	343.9	341.8	343.9
29°	300.1	302.2	306.4	303.2	303.2
30°	264.7	266.8	270.9	268.9	269.9
31°	230.3	236.6	239.7	239.7	239.7
32°	204.3	207.4	210.5	210.5	209.5
33°	179.2	182.4	187.6	185.5	185.5
34°	157.4	160.5	165.7	165.7	163.6
35°	138.6	139.6	145.9	144.9	143.8
36°	120.9	121.9	129.2	129.2	128.2
37°	106.3	108.4	114.6	113.6	112.5
38°	93.8	94.8	101.1	101.1	99.0
39°	82.3	84.4	88.6	88.6	87.5
40°	72.9	74.0	79.2	78.2	77.1
42.5°	52.1	55.2	58.4	58.4	56.3
45°	39.6	40.6	43.8	42.7	41.7
47.5°	29.2	30.2	33.3	32.3	30.2
50°	20.8	22.9	25.0	24.0	22.9
52.5°	15.6	17.7	19.8	17.7	16.7
55°	12.5	13.5	15.6	13.5	12.5
57.5°	9.4	10.4	12.5	10.4	10.4
60°	8.3	8.3	9.4	8.3	8.3
62.5°	6.3	7.3	8.3	7.3	6.3
65°	5.2	5.2	6.3	6.3	5.2
67.5°	4.2	5.2	5.2	5.2	4.2
70°	3.1	4.2	4.2	4.2	3.1
72.5°	2.1	3.1	3.1	3.1	2.1
75°	1.0	2.1	2.1	2.1	1.0
77.5°	0.0	1.0	1.0	1.0	1.0
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)