

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: P990762

Luminaire Tested: **ML3ALSFL9FS1E-TIR4D40FL-TL3SDMB-750LM-2700K**

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: P990762
 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-2700K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE BLACK TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
 Ballast/Driver: -

Summary

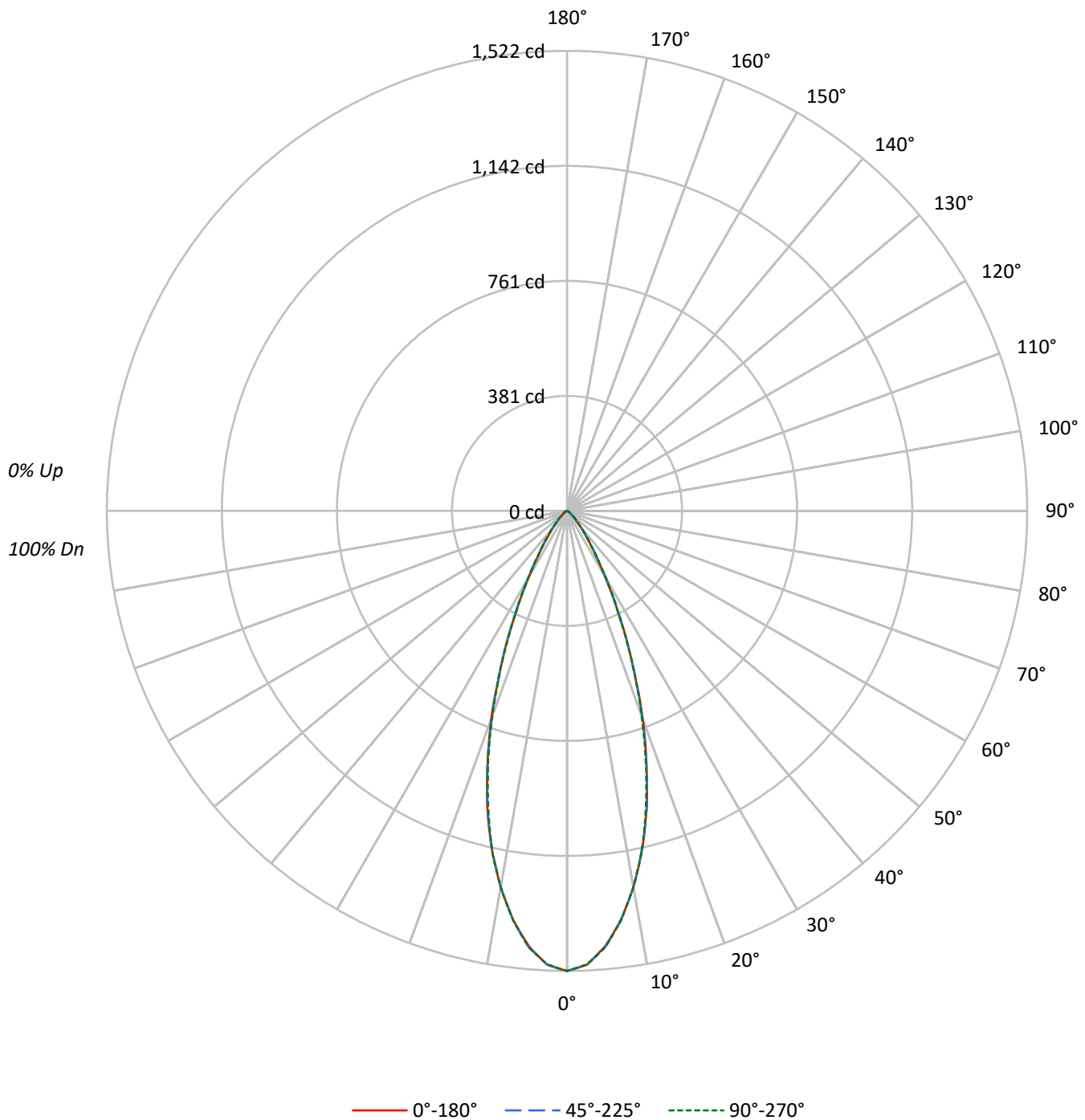
Lumens per Lamp: N/A
 Luminaire Lumens: 763.9 lumens
 Efficiency: N/A
 Efficacy: 78.8 lumens/watt
 Spacing Criteria (0/90/45): 0.63 / 0.62 / 0.63
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.7
 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°	262157	262157	262157
5°	250020	250538	250538
10°	221065	220890	221065
15°	181525	181347	179742
20°	134176	133443	132160
25°	87412	87412	86272
30°	50512	51705	51506
35°	27963	29434	29014
40°	15737	17086	16637
45°	9255	10230	9742
50°	5359	6430	5894
55°	3603	4504	3603
60°	2756	3100	2756
65°	2038	2445	2038
70°	1511	2014	1511
75°	665	1331	665
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.3	17.3
10°-20°	277.8	36.4
20°-30°	210.8	27.6
30°-40°	90.0	11.8
40°-50°	32.9	4.3
50°-60°	12.5	1.6
60°-70°	5.7	0.8
70°-80°	1.9	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°	620.8	81.3
0°-40°	710.9	93.1
0°-60°	756.2	99.0
0°-90°	763.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	763.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1522	1522	1522	1522	1522	
5°	1446	1446	1449	1448	1449	132
15°	1018	1016	1017	1014	1008	278
25°	460	460	460	457	454	210
35°	133	134	140	139	138	87
45°	38	39	42	41	40	31
55°	12	13	15	13	12	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°	1522.2	1522.2	1522.2	1522.2	1522.2
2.5°	1503.2	1502.2	1502.2	1502.2	1501.2
5°	1446.2	1446.2	1449.2	1448.2	1449.2
7.5°	1365.1	1366.1	1366.1	1366.1	1366.1
10°	1264.1	1266.1	1263.1	1266.1	1264.1
12.5°	1148.1	1148.1	1145.1	1147.1	1148.1
15°	1018.1	1016.1	1017.1	1014.1	1008.1
17.5°	874.1	873.1	872.1	869.1	866.1
20°	732.1	732.1	728.1	727.1	721.1
21°	673.1	674.1	672.1	667.1	666.1
22°	611.1	616.1	613.1	613.1	610.1
23°	558.1	560.1	559.1	559.1	560.1
24°	509.1	509.1	509.1	505.1	506.1
25°	460.0	460.0	460.0	457.0	454.0
26°	408.0	411.0	414.0	410.0	410.0
27°	363.0	366.0	371.0	368.0	365.0
28°	328.0	325.0	330.0	328.0	330.0
29°	288.0	290.0	294.0	291.0	291.0
30°	254.0	256.0	260.0	258.0	259.0
31°	221.0	227.0	230.0	230.0	230.0
32°	196.0	199.0	202.0	202.0	201.0
33°	172.0	175.0	180.0	178.0	178.0
34°	151.0	154.0	159.0	159.0	157.0
35°	133.0	134.0	140.0	139.0	138.0
36°	116.0	117.0	124.0	124.0	123.0
37°	102.0	104.0	110.0	109.0	108.0
38°	90.0	91.0	97.0	97.0	95.0
39°	79.0	81.0	85.0	85.0	84.0
40°	70.0	71.0	76.0	75.0	74.0
42.5°	50.0	53.0	56.0	56.0	54.0
45°	38.0	39.0	42.0	41.0	40.0
47.5°	28.0	29.0	32.0	31.0	29.0
50°	20.0	22.0	24.0	23.0	22.0
52.5°	15.0	17.0	19.0	17.0	16.0
55°	12.0	13.0	15.0	13.0	12.0
57.5°	9.0	10.0	12.0	10.0	10.0
60°	8.0	8.0	9.0	8.0	8.0
62.5°	6.0	7.0	8.0	7.0	6.0
65°	5.0	5.0	6.0	6.0	5.0
67.5°	4.0	5.0	5.0	5.0	4.0
70°	3.0	4.0	4.0	4.0	3.0
72.5°	2.0	3.0	3.0	3.0	2.0
75°	1.0	2.0	2.0	2.0	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)