

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: P990772

Luminaire Tested: **ML3ALSFL9FS1E-TIR4D40FL-TL3SDMW-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: P990772
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFL9FS1E-TIR4D40FL-TL3SDMW-750LM-2700K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
 Ballast/Driver: -

Summary

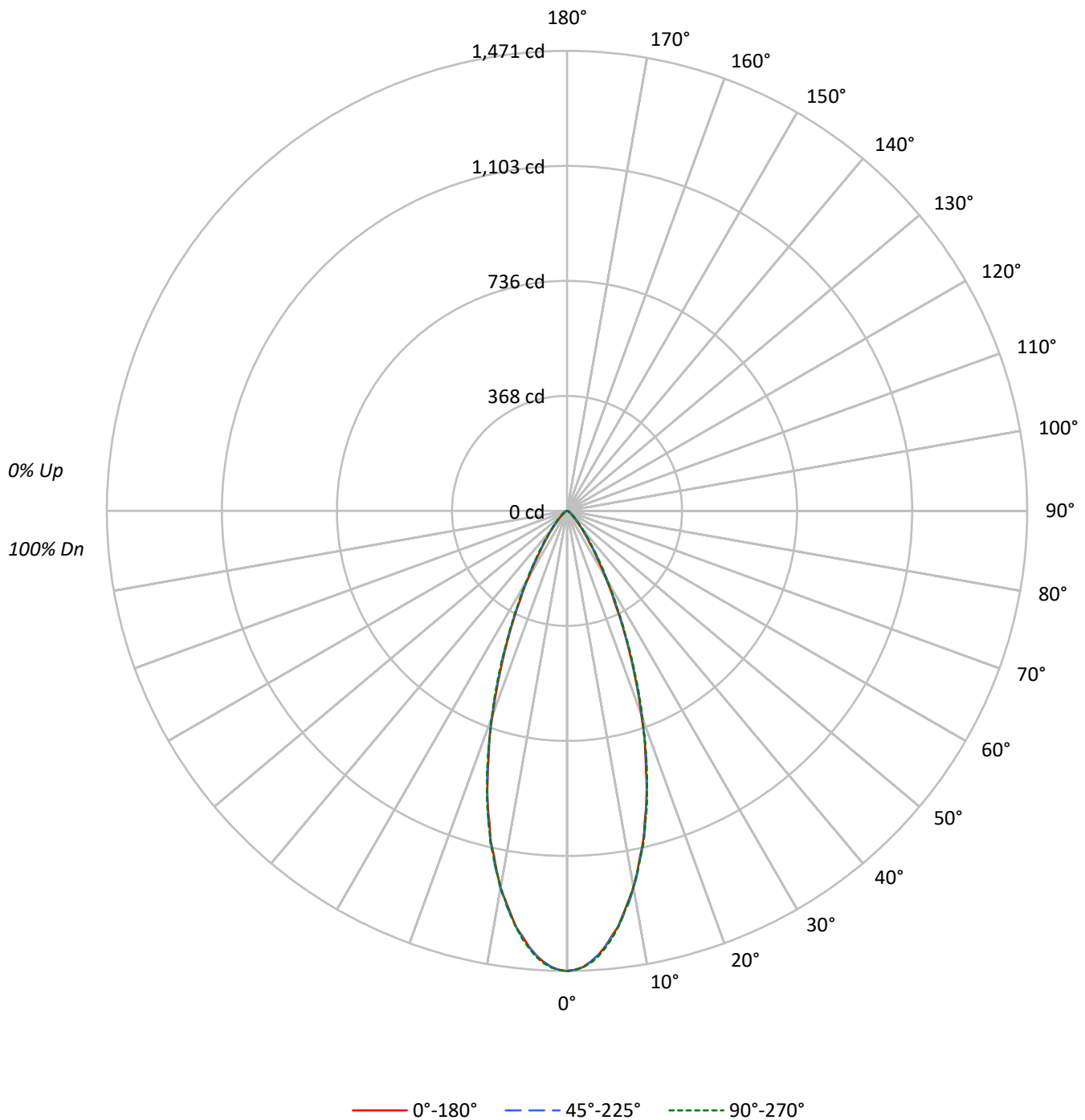
Lumens per Lamp: N/A
 Luminaire Lumens: 754.6 lumens
 Efficiency: N/A
 Efficacy: 77.8 lumens/watt
 Spacing Criteria (0/90/45): 0.62 / 0.63 / 0.64
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

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	111	109	107	105	105	103	102		101	100	99		98
2	109	104	100	97	106	102	99	96	99	96	94		96	94	92		93
3	104	98	93	89	102	96	92	89	94	90	87		91	88	86		89
4	99	92	87	83	97	91	86	82	89	85	81		87	83	81		85
5	95	87	81	78	93	86	81	77	84	80	76		83	79	76		81
6	91	82	77	73	89	82	76	73	80	76	72		79	75	72		77
7	87	78	73	69	85	78	72	69	76	72	68		75	71	68		74
8	83	74	69	65	82	74	69	65	73	68	65		72	68	65		71
9	80	71	66	62	79	71	65	62	70	65	62		69	65	61		68
10	77	68	63	59	76	67	62	59	67	62	59		66	62	59		65

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	253408	253408	253408
5°	241756	241929	242448
10°	213930	214280	213580
15°	174429	174607	175499
20°	127413	128879	129063
25°	83441	84771	84961
30°	49339	50929	50929
35°	27542	29434	29855
40°	15737	17536	17536
45°	9742	10717	10473
50°	6162	7234	6698
55°	4504	5405	4504
60°	3444	4133	3789
65°	2853	3668	3260
70°	2518	3021	2518
75°	1996	2662	1996
80°	992	992	992
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.9	16.9
10°-20°	268.0	35.5
20°-30°	205.5	27.2
30°-40°	90.9	12.1
40°-50°	35.0	4.6
50°-60°	15.1	2.0
60°-70°	8.2	1.1
70°-80°	3.4	0.5
80°-90°	0.4	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°	601.4	79.7
0°-40°	692.3	91.8
0°-60°	742.5	98.4
0°-90°	754.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	754.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1471	1471	1471	1471	1471	
5°	1398	1397	1399	1399	1402	128
15°	978	978	979	982	984	267
25°	439	441	446	448	447	202
35°	131	134	140	142	142	86
45°	40	42	44	44	43	32
55°	15	16	18	16	15	14
65°	7	8	9	8	8	8
75°	3	3	4	3	3	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°	1471.4	1471.4	1471.4	1471.4	1471.4
1°	1467.4	1467.4	1468.4	1466.4	1468.4
2°	1459.4	1456.4	1458.4	1457.4	1460.4
3°	1443.4	1439.4	1443.4	1443.4	1447.4
4°	1423.4	1420.4	1423.4	1425.4	1428.4
5°	1398.4	1397.4	1399.4	1399.4	1402.4
6°	1367.4	1370.4	1370.4	1371.4	1374.4
7°	1339.4	1339.4	1339.4	1339.4	1340.4
8°	1299.3	1304.3	1303.3	1303.3	1301.3
9°	1260.3	1264.3	1267.3	1262.3	1262.3
10°	1223.3	1221.3	1225.3	1221.3	1221.3
11°	1176.3	1179.3	1179.3	1176.3	1176.3
12°	1125.3	1131.3	1132.3	1133.3	1130.3
13°	1083.3	1081.3	1086.3	1083.3	1088.3
14°	1026.3	1031.3	1034.3	1032.3	1032.3
15°	978.3	978.3	979.3	982.3	984.3
16°	924.2	922.2	925.2	928.2	926.2
17°	864.2	869.2	871.2	872.2	873.2
18°	809.2	816.2	816.2	817.2	817.2
19°	759.2	757.2	758.2	759.2	755.2
20°	695.2	700.2	703.2	703.2	704.2
22.5°	560.1	566.2	567.2	571.2	572.2
25°	439.1	441.1	446.1	448.1	447.1
27.5°	330.1	335.1	340.1	344.1	342.1
30°	248.1	250.1	256.1	259.1	256.1
32.5°	178.0	182.0	191.1	192.1	193.1
35°	131.0	134.0	140.0	142.0	142.0
37.5°	95.0	98.0	104.0	105.0	105.0
40°	70.0	73.0	78.0	79.0	78.0
42.5°	53.0	55.0	59.0	59.0	57.0
45°	40.0	42.0	44.0	44.0	43.0
47.5°	30.0	32.0	35.0	34.0	32.0
50°	23.0	25.0	27.0	26.0	25.0
52.5°	18.0	19.0	22.0	20.0	19.0
55°	15.0	16.0	18.0	16.0	15.0
57.5°	12.0	13.0	15.0	14.0	13.0
60°	10.0	11.0	12.0	11.0	11.0
62.5°	9.0	9.0	10.0	10.0	9.0
65°	7.0	8.0	9.0	8.0	8.0
67.5°	7.0	7.0	8.0	7.0	7.0
70°	5.0	6.0	6.0	6.0	5.0
72.5°	4.0	5.0	5.0	4.0	4.0
75°	3.0	3.0	4.0	3.0	3.0
77.5°	1.0	2.0	2.0	2.0	2.0
80°	1.0	1.0	1.0	1.0	1.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	1.0	1.0	1.0	1.0	1.0
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)