

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: P990774

Luminaire Tested: **ML3ALSFL9FS1E-TIR4D40FL-TL3SDMW-750LM-3500K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990774
 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-3500K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
 Ballast/Driver: -

Summary

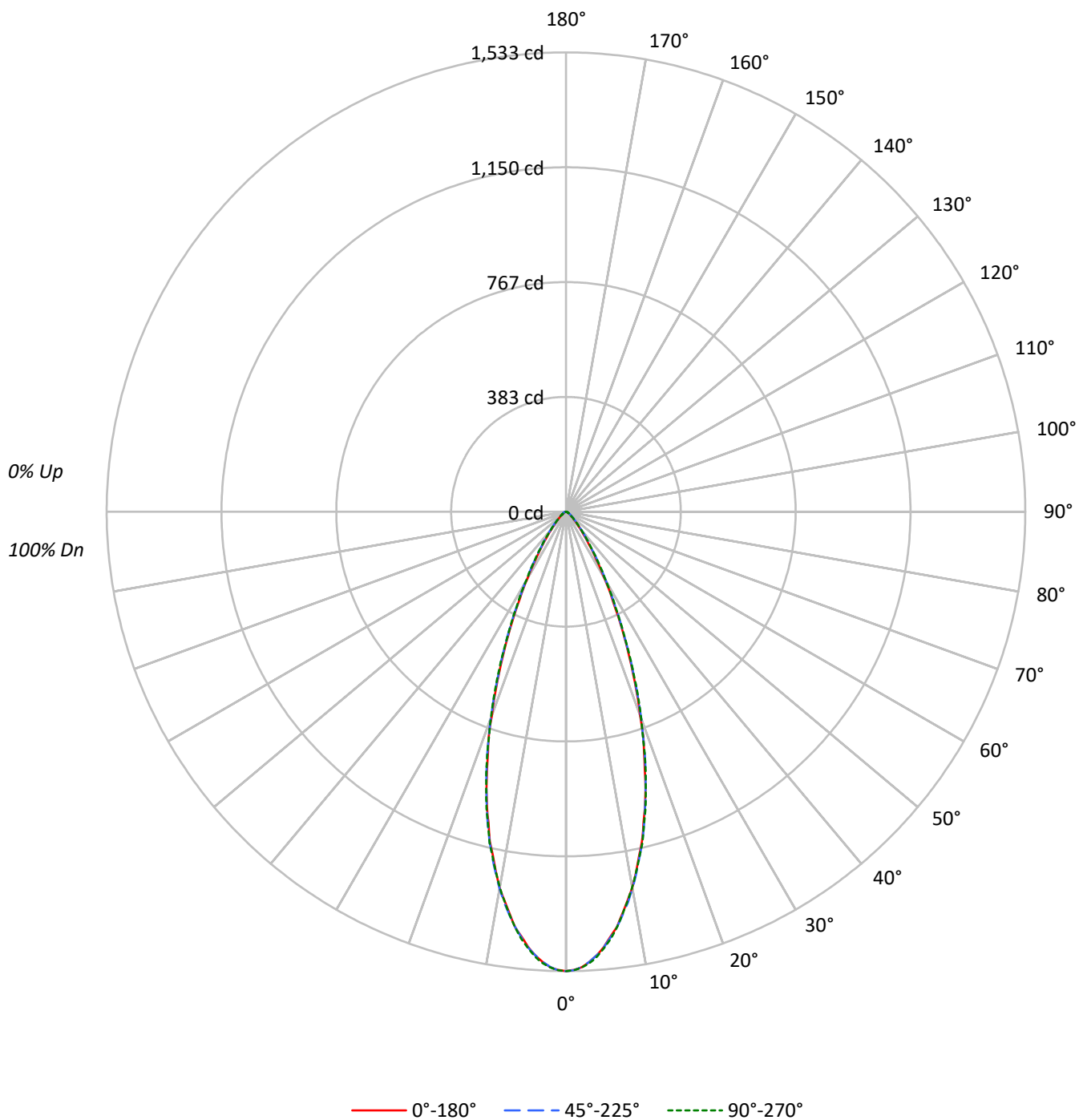
Lumens per Lamp: N/A
 Luminaire Lumens: 786.3 lumens
 Efficiency: N/A
 Efficacy: 81.1 lumens/watt
 Spacing Criteria (0/90/45): 0.62 / 0.63 / 0.64
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

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°	264052	264052	264052
5°	251904	252077	252613
10°	222919	223286	222552
15°	181739	181935	182862
20°	132765	134286	134488
25°	86956	88324	88533
30°	51407	53057	53057
35°	28698	30675	31116
40°	16412	18278	18278
45°	10156	11179	10911
50°	6430	7529	6993
55°	4684	5645	4684
60°	3582	4306	3961
65°	2975	3831	3382
70°	2618	3172	2618
75°	2063	2795	2063
80°	992	992	992
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.2	16.9
10°-20°	279.2	35.5
20°-30°	214.2	27.2
30°-40°	94.8	12.1
40°-50°	36.5	4.6
50°-60°	15.8	2.0
60°-70°	8.6	1.1
70°-80°	3.6	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°	626.7	79.7
0°-40°	721.4	91.8
0°-60°	773.7	98.4
0°-90°	786.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	786.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1533	1533	1533	1533	1533	
5°	1457	1456	1458	1458	1461	133
15°	1019	1019	1020	1024	1026	278
25°	458	460	465	467	466	211
35°	136	140	146	148	148	90
45°	42	44	46	46	45	34
55°	16	17	19	17	16	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°	1533.2	1533.2	1533.2	1533.2	1533.2
1°	1529.0	1529.0	1530.0	1528.0	1530.0
2°	1520.7	1517.5	1519.6	1518.6	1521.7
3°	1504.0	1499.8	1504.0	1504.0	1508.1
4°	1483.1	1480.0	1483.1	1485.2	1488.3
5°	1457.1	1456.0	1458.1	1458.1	1461.2
6°	1424.8	1427.9	1427.9	1428.9	1432.1
7°	1395.6	1395.6	1395.6	1395.6	1396.6
8°	1353.9	1359.1	1358.1	1358.1	1356.0
9°	1313.2	1317.4	1320.5	1315.3	1315.3
10°	1274.7	1272.6	1276.8	1272.6	1272.6
11°	1225.7	1228.8	1228.8	1225.7	1225.7
12°	1172.5	1178.8	1179.8	1180.9	1177.8
13°	1128.8	1126.7	1131.9	1128.8	1134.0
14°	1069.4	1074.6	1077.7	1075.6	1075.6
15°	1019.3	1019.3	1020.4	1023.5	1025.6
16°	963.0	961.0	964.1	967.2	965.1
17°	900.5	905.7	907.8	908.9	909.9
18°	843.2	850.5	850.5	851.5	851.5
19°	791.1	789.0	790.0	791.1	786.9
20°	724.4	729.6	732.7	732.7	733.8
22.5°	583.7	589.9	591.0	595.1	596.2
25°	457.6	459.6	464.8	466.9	465.9
27.5°	343.9	349.2	354.4	358.5	356.5
30°	258.5	260.6	266.8	269.9	266.8
32.5°	185.5	189.7	199.1	200.1	201.2
35°	136.5	139.7	145.9	148.0	148.0
37.5°	99.0	102.1	108.4	109.4	109.4
40°	73.0	76.1	81.3	82.3	81.3
42.5°	55.2	57.3	61.5	61.5	59.4
45°	41.7	43.8	45.9	45.9	44.8
47.5°	31.3	33.4	36.5	35.4	33.4
50°	24.0	26.1	28.1	27.1	26.1
52.5°	18.8	19.8	22.9	20.8	19.8
55°	15.6	16.7	18.8	16.7	15.6
57.5°	12.5	13.5	15.6	14.6	13.5
60°	10.4	11.5	12.5	11.5	11.5
62.5°	9.4	9.4	10.4	10.4	9.4
65°	7.3	8.3	9.4	8.3	8.3
67.5°	7.3	7.3	8.3	7.3	7.3
70°	5.2	6.3	6.3	6.3	5.2
72.5°	4.2	5.2	5.2	4.2	4.2
75°	3.1	3.1	4.2	3.1	3.1
77.5°	1.0	2.1	2.1	2.1	2.1
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)