

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: P990838

Luminaire Tested: **ML3ALSFLD2W1E-TIR4D40FL-TL3SDSL-600LM-2700K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990838
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFLD2W1E-TIR4D40FL-TL3SDSL-600LM-2700K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR,
 METALLIC SILVER TRIM
 Light Source: (1) D2W LED 90CRI / 2700K CCT
 Ballast/Driver: -

Summary

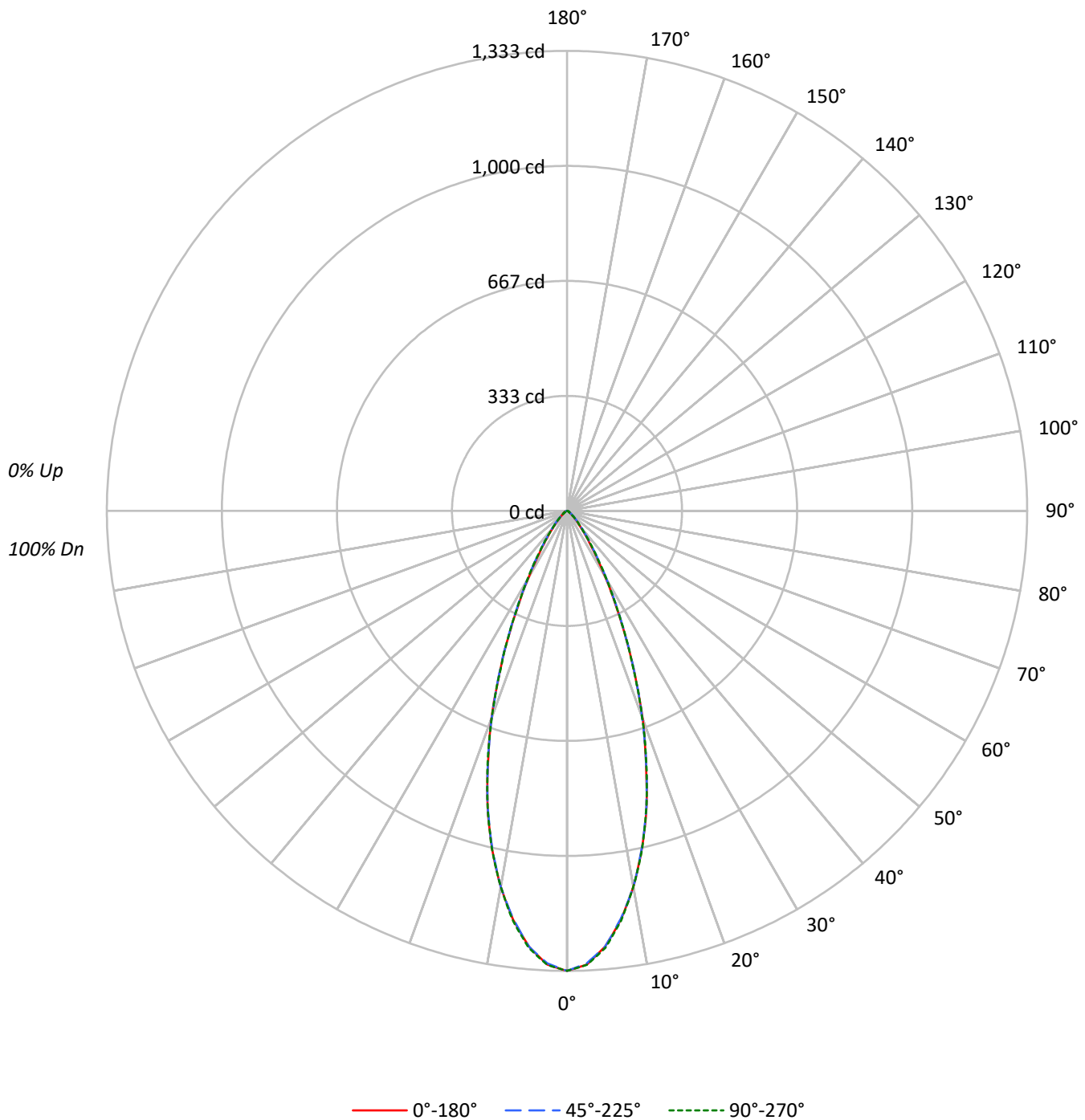
Lumens per Lamp: N/A
 Luminaire Lumens: 673.2 lumens
 Efficiency: N/A
 Efficacy: 71.6 lumens/watt
 Spacing Criteria (0/90/45): 0.63 / 0.63 / 0.64
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.4
 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	101	97	107	103	99	96	99	97	94		96	94	92		94
3	104	98	93	90	102	97	92	89	94	91	88		92	89	86		89
4	99	92	87	83	98	91	87	83	89	85	82		87	84	81		85
5	95	87	82	78	93	86	81	78	85	80	77		83	79	76		82
6	91	83	77	74	90	82	77	73	81	76	73		79	75	72		78
7	87	79	73	69	86	78	73	69	77	72	69		76	72	69		75
8	84	75	70	66	82	74	69	66	73	69	65		72	68	65		71
9	80	72	66	63	79	71	66	63	70	66	62		69	65	62		69
10	77	68	63	60	76	68	63	60	67	63	59		66	62	59		66

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	229504	229504	229504
5°	219074	219074	219679
10°	193452	193452	193452
15°	158614	158293	158293
20°	117333	116692	116692
25°	75954	76125	76448
30°	44148	45540	45540
35°	24346	26218	26218
40°	13916	15310	14906
45°	8184	9255	8841
50°	4984	6162	5225
55°	3453	4234	3453
60°	2446	3031	2756
65°	2160	2527	2160
70°	1762	2216	1762
75°	1198	1797	1198
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	17.2
10°-20°	242.9	36.1
20°-30°	184.9	27.5
30°-40°	80.2	11.9
40°-50°	29.9	4.4
50°-60°	11.9	1.8
60°-70°	5.7	0.8
70°-80°	2.0	0.3
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°	543.6	80.7
0°-40°	623.8	92.7
0°-60°	665.5	98.9
0°-90°	673.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	673.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1333	1333	1333	1333	1333	
5°	1267	1266	1267	1266	1271	116
15°	890	887	888	887	888	243
25°	400	400	401	403	402	184
35°	116	120	125	126	125	77
45°	34	35	38	37	36	28
55°	12	12	14	12	12	11
65°	5	5	6	5	5	5
75°	2	2	3	2	2	2
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°	1332.6	1332.6	1332.6	1332.6	1332.6
2.5°	1315.8	1314.0	1312.2	1314.0	1316.7
5°	1267.2	1266.3	1267.2	1266.3	1270.7
7.5°	1194.6	1196.4	1192.0	1195.5	1198.2
10°	1106.2	1107.1	1106.2	1106.2	1106.2
12.5°	1002.8	1002.8	1001.0	1001.0	1004.5
15°	889.6	886.9	887.8	886.9	887.8
17.5°	759.6	764.0	761.4	761.4	764.0
20°	640.2	638.4	636.7	638.4	636.7
21°	588.9	587.2	586.3	588.9	586.3
22°	536.7	538.5	537.6	534.1	537.6
23°	489.9	491.7	491.7	488.1	486.3
24°	445.7	443.9	447.4	445.7	445.7
25°	399.7	399.7	400.6	403.2	402.3
26°	359.0	359.9	362.5	360.8	360.8
27°	318.3	321.9	324.5	322.8	323.6
28°	285.6	286.5	290.9	289.2	289.2
29°	252.9	253.8	258.2	260.0	257.3
30°	222.0	226.4	229.0	229.9	229.0
31°	197.2	199.0	204.3	204.3	203.4
32°	171.5	176.0	180.4	181.3	180.4
33°	150.3	154.7	160.1	160.1	159.2
34°	132.6	135.3	141.5	141.5	139.7
35°	115.8	120.3	124.7	126.4	124.7
36°	103.5	104.3	110.5	111.4	109.6
37°	90.2	92.8	97.3	98.2	96.4
38°	79.6	82.2	86.7	86.7	85.8
39°	69.9	72.5	76.0	76.9	75.2
40°	61.9	63.7	68.1	68.1	66.3
42.5°	46.0	47.8	51.3	50.4	49.5
45°	33.6	35.4	38.0	37.1	36.3
47.5°	25.6	27.4	29.2	28.3	27.4
50°	18.6	20.3	23.0	21.2	19.5
52.5°	14.1	15.9	17.7	15.9	15.0
55°	11.5	12.4	14.1	12.4	11.5
57.5°	8.8	9.7	11.5	10.6	9.7
60°	7.1	8.0	8.8	8.0	8.0
62.5°	6.2	6.2	8.0	7.1	6.2
65°	5.3	5.3	6.2	5.3	5.3
67.5°	4.4	4.4	5.3	4.4	4.4
70°	3.5	3.5	4.4	3.5	3.5
72.5°	2.7	2.7	3.5	2.7	2.7
75°	1.8	1.8	2.7	1.8	1.8
77.5°	0.9	0.9	0.9	0.9	0.9
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)