

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: P990821

Luminaire Tested: **ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-3000K**

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: P990821
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-3000K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

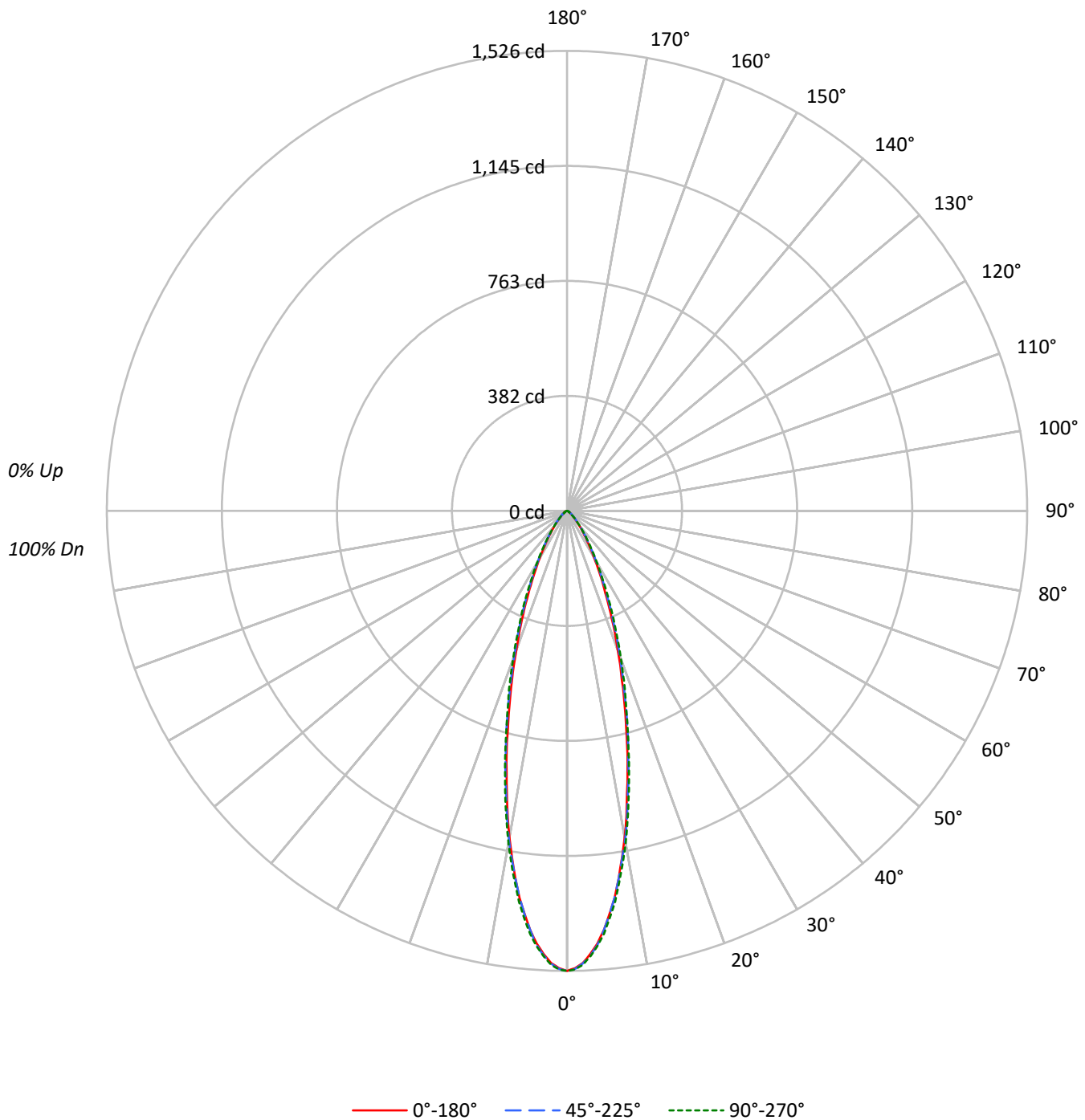
Lumens per Lamp: N/A
 Luminaire Lumens: 613.3 lumens
 Efficiency: N/A
 Efficacy: 65.2 lumens/watt
 Spacing Criteria (0/90/45): 0.5 / 0.5 / 0.54
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

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	100	97	107	103	99	96	99	97	94		96	94	92		94
3	104	98	93	90	102	97	92	89	94	90	88		92	89	86		89
4	99	92	87	84	98	91	87	83	89	85	82		87	84	81		85
5	95	87	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		79	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	66		72
9	81	72	67	63	80	72	67	63	71	66	63		70	66	63		69
10	78	69	64	60	77	69	64	60	68	63	60		67	63	60		66

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	262846	262846	262846
5°	241289	241462	243416
10°	192490	193819	195638
15°	135720	139090	139607
20°	89952	93580	95835
25°	57331	60733	63070
30°	35915	38361	39674
35°	21865	23863	24662
40°	13826	15085	14883
45°	8744	9669	9207
50°	5573	6591	5814
55°	3963	4834	3963
60°	2928	3582	2928
65°	2690	3097	2690
70°	2367	2367	1913
75°	1264	1863	1264
80°	893	893	893
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.9	20.2
10°-20°	213.8	34.9
20°-30°	148.5	24.2
30°-40°	72.8	11.9
40°-50°	30.9	5.0
50°-60°	13.4	2.2
60°-70°	6.8	1.1
70°-80°	2.8	0.5
80°-90°	0.3	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°	486.2	79.3
0°-40°	559.0	91.1
0°-60°	603.3	98.4
0°-90°	613.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	613.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1526	1526	1526	1526	1526	
5°	1396	1397	1397	1400	1408	124
15°	761	766	780	780	783	210
25°	302	308	320	327	332	142
35°	104	108	114	117	117	68
45°	36	38	40	39	38	29
55°	13	14	16	14	13	12
65°	7	7	8	7	7	6
75°	2	3	3	3	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°	1526.2	1526.2	1526.2	1526.2	1526.2
1°	1516.8	1519.6	1519.6	1518.7	1521.5
2°	1500.7	1501.6	1502.6	1501.6	1506.4
3°	1472.3	1475.2	1477.0	1475.2	1479.9
4°	1438.3	1442.1	1444.0	1440.2	1446.8
5°	1395.7	1396.7	1396.7	1399.5	1408.0
6°	1344.7	1349.4	1346.6	1348.4	1357.9
7°	1292.7	1290.8	1291.7	1293.6	1306.8
8°	1230.2	1231.2	1231.2	1234.0	1244.4
9°	1164.0	1165.0	1168.8	1169.7	1182.0
10°	1100.7	1096.9	1108.3	1106.4	1118.7
11°	1030.7	1029.8	1040.2	1041.1	1050.6
12°	957.0	965.5	969.3	975.9	981.5
13°	891.7	895.5	907.8	910.6	914.4
14°	828.4	832.1	840.6	843.5	848.2
15°	761.2	765.9	780.1	780.1	783.0
16°	701.6	705.4	721.5	721.5	722.4
17°	644.9	647.7	662.9	665.7	667.6
18°	589.1	595.7	608.0	613.7	622.2
19°	541.8	545.6	557.9	563.6	569.3
20°	490.8	501.2	510.6	516.3	522.9
22.5°	388.6	393.4	406.6	416.1	416.1
25°	301.7	308.3	319.6	327.2	331.9
27.5°	234.5	237.3	249.6	258.2	257.2
30°	180.6	183.4	192.9	198.6	199.5
32.5°	138.1	140.0	148.5	153.2	153.2
35°	104.0	107.8	113.5	117.3	117.3
37.5°	79.4	82.3	87.0	89.8	87.9
40°	61.5	63.4	67.1	67.1	66.2
42.5°	47.3	49.2	51.1	51.1	49.2
45°	35.9	37.8	39.7	38.8	37.8
47.5°	27.4	29.3	31.2	30.3	28.4
50°	20.8	22.7	24.6	23.6	21.7
52.5°	16.1	18.0	19.9	18.0	17.0
55°	13.2	14.2	16.1	14.2	13.2
57.5°	10.4	11.3	13.2	11.3	10.4
60°	8.5	9.5	10.4	9.5	8.5
62.5°	7.6	7.6	8.5	8.5	7.6
65°	6.6	6.6	7.6	6.6	6.6
67.5°	4.7	5.7	6.6	5.7	4.7
70°	4.7	4.7	4.7	4.7	3.8
72.5°	2.8	3.8	3.8	3.8	2.8
75°	1.9	2.8	2.8	2.8	1.9
77.5°	0.9	1.9	1.9	1.9	0.9
80°	0.9	0.9	0.9	0.9	0.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
82.5°	0.9	0.9	0.9	0.9	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)