

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: P990820

Luminaire Tested: **ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-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: P990820
 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-2700K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 25D TIR, MATTE WHITE TRIM
 Light Source: (1) D2W LED 90CRI / 2700K CCT
 Ballast/Driver: -

Summary

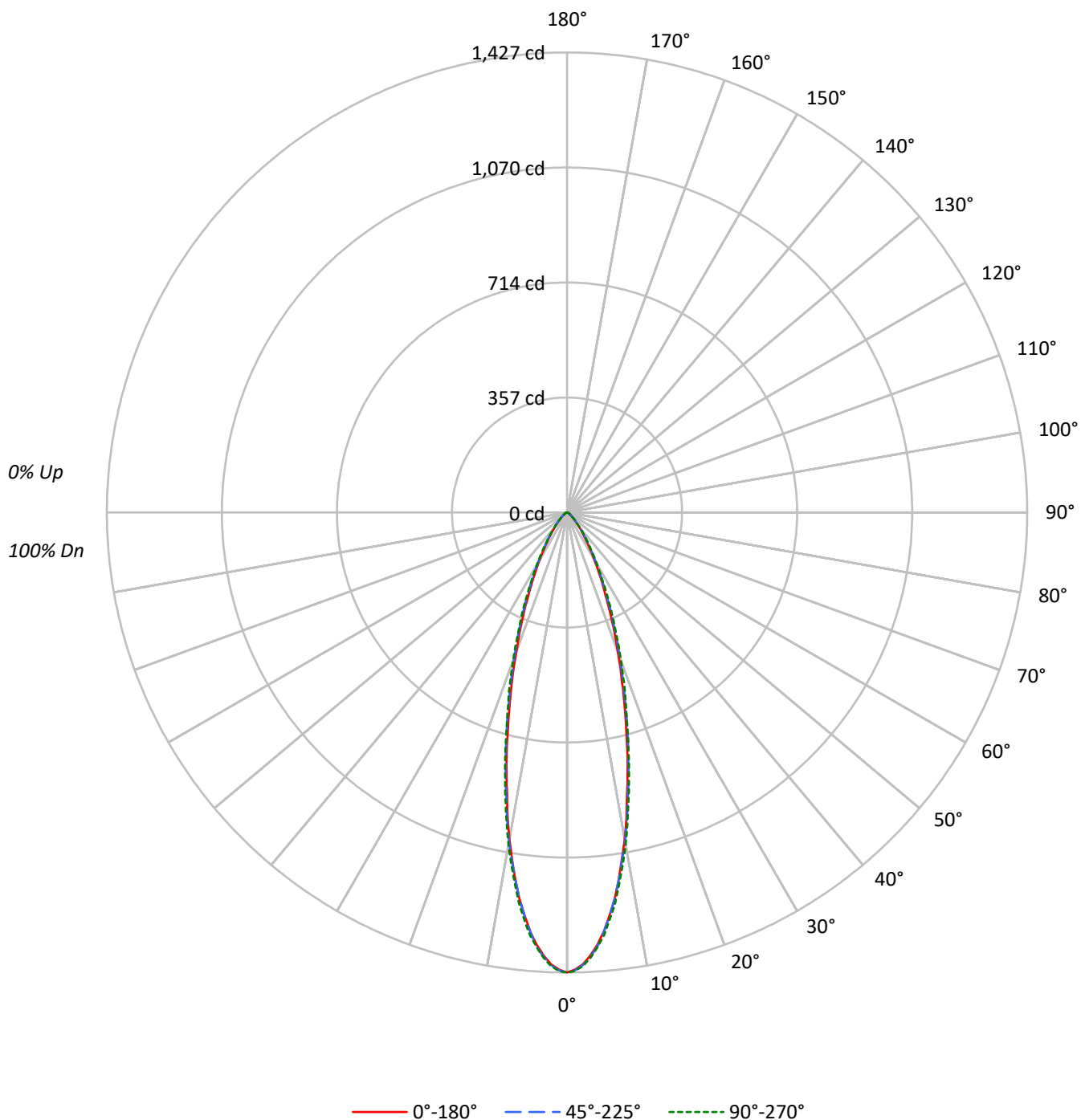
Lumens per Lamp: N/A
 Luminaire Lumens: 573.3 lumens
 Efficiency: N/A
 Efficacy: 61.0 lumens/watt
 Spacing Criteria (0/90/45): 0.5 / 0.5 / 0.54
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

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

TEST NUMBER: P990820
CATALOG NUMBER: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-2700K

Luminous Intensity Polar Plot



TEST NUMBER: P990820
 CATALOG NUMBER: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-2700K

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	79	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°	245727	245727	245727
5°	225574	225730	227563
10°	179951	181175	182889
15°	126877	130033	130514
20°	84087	87496	89603
25°	53588	56780	58965
30°	33569	35855	37088
35°	20436	22307	23043
40°	12927	14119	13916
45°	8184	9036	8622
50°	5198	6162	5439
55°	3723	4504	3723
60°	2756	3341	2756
65°	2527	2893	2527
70°	2216	2216	1762
75°	1198	1797	1198
80°	893	893	893
85°	0	0	0

TEST NUMBER: P990820
 CATALOG NUMBER: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.8	20.2
10°-20°	199.9	34.9
20°-30°	138.8	24.2
30°-40°	68.0	11.9
40°-50°	28.9	5.0
50°-60°	12.5	2.2
60°-70°	6.4	1.1
70°-80°	2.6	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°	454.5	79.3
0°-40°	522.5	91.1
0°-60°	564.0	98.4
0°-90°	573.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	573.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1427	1427	1427	1427	1427	
5°	1305	1306	1306	1308	1316	116
15°	712	716	729	729	732	196
25°	282	288	299	306	310	132
35°	97	101	106	110	110	64
45°	34	35	37	36	35	27
55°	12	13	15	13	12	11
65°	6	6	7	6	6	6
75°	2	3	3	3	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

TEST NUMBER: P990820
 CATALOG NUMBER: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1426.8	1426.8	1426.8	1426.8	1426.8
1°	1417.9	1420.6	1420.6	1419.7	1422.4
2°	1402.9	1403.8	1404.7	1403.8	1408.2
3°	1376.4	1379.0	1380.8	1379.0	1383.5
4°	1344.6	1348.1	1349.9	1346.3	1352.5
5°	1304.8	1305.7	1305.7	1308.3	1316.3
6°	1257.1	1261.5	1258.8	1260.6	1269.4
7°	1208.4	1206.7	1207.5	1209.3	1221.7
8°	1150.1	1151.0	1151.0	1153.6	1163.3
9°	1088.2	1089.1	1092.6	1093.5	1105.0
10°	1029.0	1025.4	1036.0	1034.3	1045.8
11°	963.6	962.7	972.4	973.3	982.1
12°	894.6	902.6	906.1	912.3	917.6
13°	833.6	837.1	848.6	851.3	854.8
14°	774.4	777.9	785.9	788.5	792.9
15°	711.6	716.0	729.3	729.3	732.0
16°	655.9	659.5	674.5	674.5	675.4
17°	602.9	605.5	619.7	622.3	624.1
18°	550.7	556.9	568.4	573.7	581.7
19°	506.5	510.1	521.6	526.9	532.2
20°	458.8	468.5	477.4	482.7	488.9
22.5°	363.3	367.7	380.1	389.0	389.0
25°	282.0	288.2	298.8	305.9	310.3
27.5°	219.2	221.9	233.4	241.3	240.4
30°	168.8	171.5	180.3	185.6	186.5
32.5°	129.1	130.8	138.8	143.2	143.2
35°	97.2	100.8	106.1	109.6	109.6
37.5°	74.3	76.9	81.3	84.0	82.2
40°	57.5	59.2	62.8	62.8	61.9
42.5°	44.2	46.0	47.7	47.7	46.0
45°	33.6	35.4	37.1	36.2	35.4
47.5°	25.6	27.4	29.2	28.3	26.5
50°	19.4	21.2	23.0	22.1	20.3
52.5°	15.0	16.8	18.6	16.8	15.9
55°	12.4	13.3	15.0	13.3	12.4
57.5°	9.7	10.6	12.4	10.6	9.7
60°	8.0	8.8	9.7	8.8	8.0
62.5°	7.1	7.1	8.0	8.0	7.1
65°	6.2	6.2	7.1	6.2	6.2
67.5°	4.4	5.3	6.2	5.3	4.4
70°	4.4	4.4	4.4	4.4	3.5
72.5°	2.7	3.5	3.5	3.5	2.7
75°	1.8	2.7	2.7	2.7	1.8
77.5°	0.9	1.8	1.8	1.8	0.9
80°	0.9	0.9	0.9	0.9	0.9

TEST NUMBER: P990820
CATALOG NUMBER: ML3ALSFLD2W1E-TIR4D25NFL-TL3SDMW-600LM-2700K

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)