

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: P990945

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D55WFL-TL4RDSL-1000LM-4000K**

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: P990945
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4ALSFL9FS1E-TIR4D55WFL-TL4RDSL-1000LM-4000K
 Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 4000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 999.4 lumens
 Efficiency: N/A
 Efficacy: 76.9 lumens/watt
 Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.77
 Luminous Opening: Circular (Dia: 0.33' x H: 0')
 CIE Type: Direct

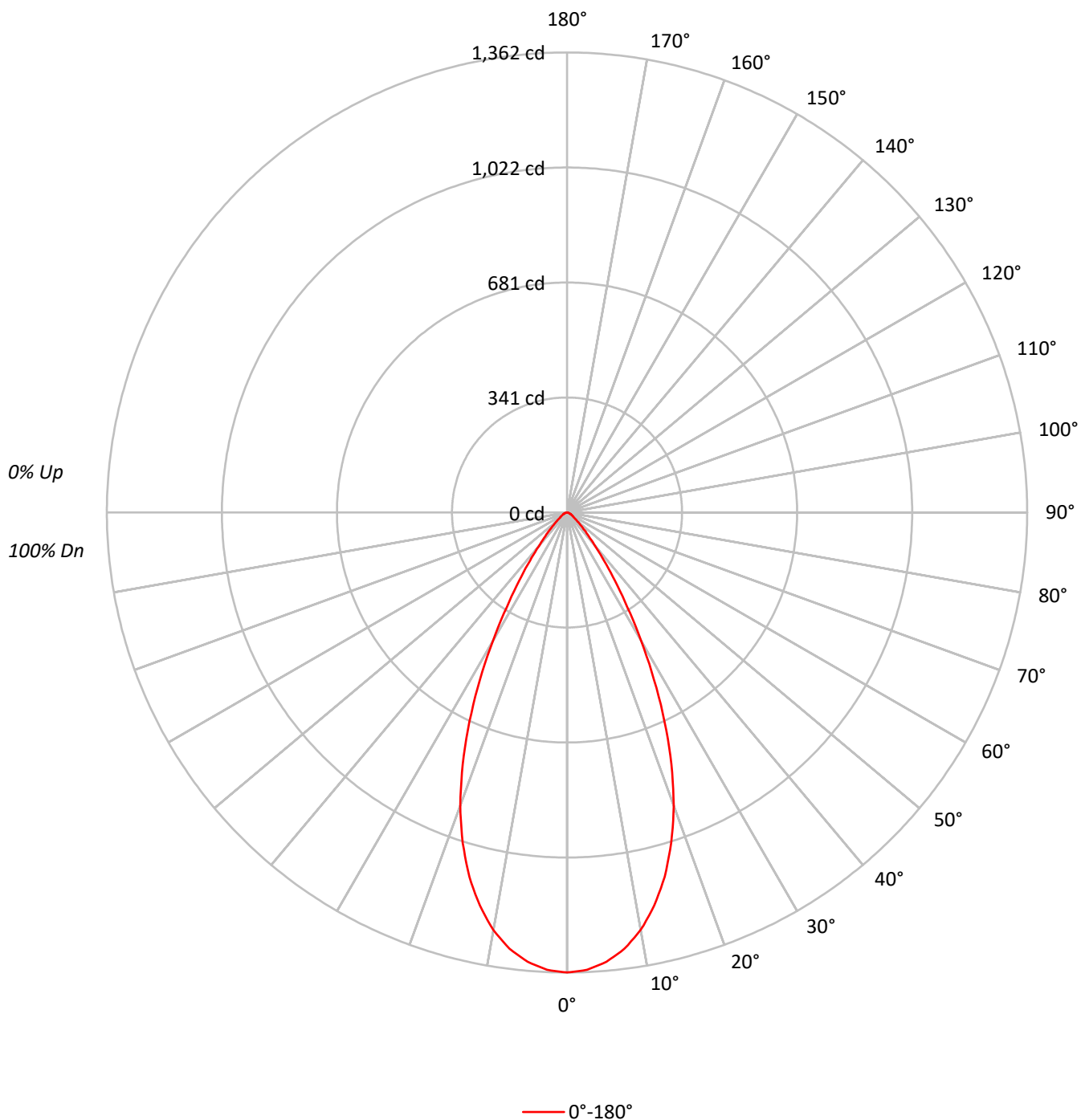
Input Watts (W): 13
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT

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	113	111	108	106	111	109	106	104	105	103	101		101	99	98		97
2	108	103	99	96	106	101	98	95	98	95	92		95	93	91		92
3	103	96	91	87	101	95	90	87	92	88	85		90	87	84		87
4	97	90	85	80	96	89	84	80	87	82	79		85	81	78		83
5	93	85	79	75	91	84	78	74	82	77	74		80	76	73		79
6	88	80	74	69	87	79	73	69	77	72	69		76	72	68		75
7	84	75	69	65	83	74	69	65	73	68	64		72	67	64		71
8	80	71	65	61	79	70	65	61	69	64	61		68	64	60		67
9	77	67	61	58	76	67	61	57	66	61	57		65	60	57		64
10	73	64	58	54	72	63	58	54	63	58	54		62	57	54		61

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	167960
5°	165345
10°	157237
15°	142573
20°	121273
25°	92954
30°	62355
35°	37072
40°	21013
45°	12123
50°	7465
55°	5204
60°	4144
65°	3677
70°	3029
75°	2002
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.0	12.5
10°-20°	308.8	30.9
20°-30°	309.1	30.9
30°-40°	159.9	16.0
40°-50°	57.2	5.7
50°-60°	22.6	2.3
60°-70°	12.5	1.2
70°-80°	4.4	0.4
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°	742.8	74.3
0°-40°	902.7	90.3
0°-60°	982.5	98.3
0°-90°	999.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	999.4	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1362	
5°	1335	125
15°	1116	309
25°	683	309
35°	246	160
45°	70	57
55°	24	23
65°	13	12
75°	4	4
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1361.7
2.5°	1355.4
5°	1335.4
7.5°	1302.8
10°	1255.4
12.5°	1192.3
15°	1116.5
17.5°	1026.0
20°	923.9
22.5°	807.1
25°	683.0
27.5°	557.7
30°	437.8
32.5°	331.5
35°	246.2
37.5°	179.9
40°	130.5
42.5°	94.7
45°	69.5
47.5°	51.6
50°	38.9
52.5°	29.5
55°	24.2
57.5°	20.0
60°	16.8
62.5°	14.7
65°	12.6
67.5°	10.5
70°	8.4
72.5°	6.3
75°	4.2
77.5°	2.1
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)