

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: P990933

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMB-1000LM-3000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
Report Number: P990933
Test Lab: Cooper Lighting Solutions
Issue Date: 5/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMB-1000LM-3000K
Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 941.2 lumens
Efficiency: N/A
Efficacy: 72.4 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

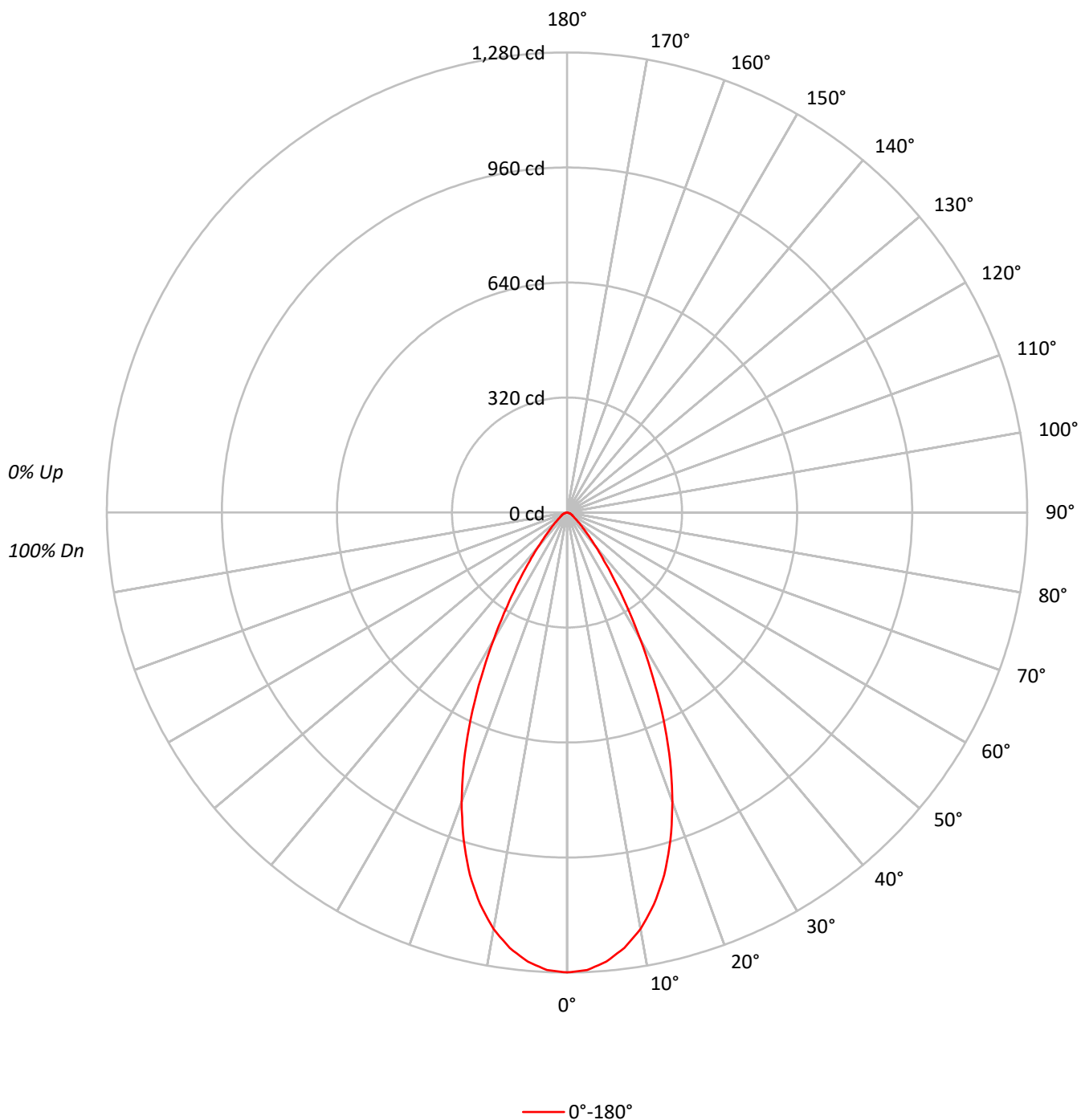
Input Watts (W): 13
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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	108	106	104	104	103	101		101	99	98		97
2	108	103	99	95	106	101	97	94	98	95	92		95	92	90		92
3	102	96	91	87	100	95	90	86	92	88	85		89	86	84		87
4	97	90	84	80	95	89	83	79	86	82	79		84	81	78		83
5	92	84	78	74	91	83	78	74	81	77	73		80	76	72		78
6	88	79	73	69	87	78	73	69	77	72	68		75	71	68		74
7	84	75	69	65	83	74	68	64	73	68	64		72	67	64		70
8	80	71	65	61	79	70	64	61	69	64	60		68	63	60		67
9	76	67	61	57	75	66	61	57	65	60	57		65	60	57		64
10	73	64	58	54	72	63	58	54	62	57	54		62	57	54		61

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	157821
5°	155291
10°	147342
15°	133315
20°	112491
25°	86245
30°	58011
35°	34994
40°	20014
45°	11809
50°	7561
55°	5441
60°	4490
65°	4115
70°	3642
75°	2431
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.3	12.5
10°-20°	288.3	30.6
20°-30°	286.9	30.5
30°-40°	150.2	16.0
40°-50°	55.9	5.9
50°-60°	23.7	2.5
60°-70°	14.0	1.5
70°-80°	5.1	0.5
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°	692.4	73.6
0°-40°	842.6	89.5
0°-60°	922.2	98.0
0°-90°	941.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	941.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1280	
5°	1254	117
15°	1044	288
25°	634	287
35°	232	150
45°	68	56
55°	25	24
65°	14	14
75°	5	5
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1279.5
2.5°	1274.4
5°	1254.2
7.5°	1221.9
10°	1176.4
12.5°	1116.8
15°	1044.0
17.5°	956.1
20°	857.0
22.5°	748.9
25°	633.7
27.5°	517.5
30°	407.3
32.5°	310.3
35°	232.4
37.5°	169.8
40°	124.3
42.5°	92.0
45°	67.7
47.5°	51.5
50°	39.4
52.5°	31.3
55°	25.3
57.5°	21.2
60°	18.2
62.5°	16.2
65°	14.1
67.5°	12.1
70°	10.1
72.5°	7.1
75°	5.1
77.5°	2.0
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)