

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: P990862

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D25NFL-TL4RDMB-800LM-2700K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
Report Number: P990862
Test Lab: Cooper Lighting Solutions
Issue Date: 5/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4ALSFL9FS1E-TIR4D25NFL-TL4RDMB-800LM-2700K
Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 25D TIR, MATTE BLACK TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 729.0 lumens
Efficiency: N/A
Efficacy: 68.8 lumens/watt
Spacing Criteria (0/90/45): 0.52 / 0.52 / 0.56
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

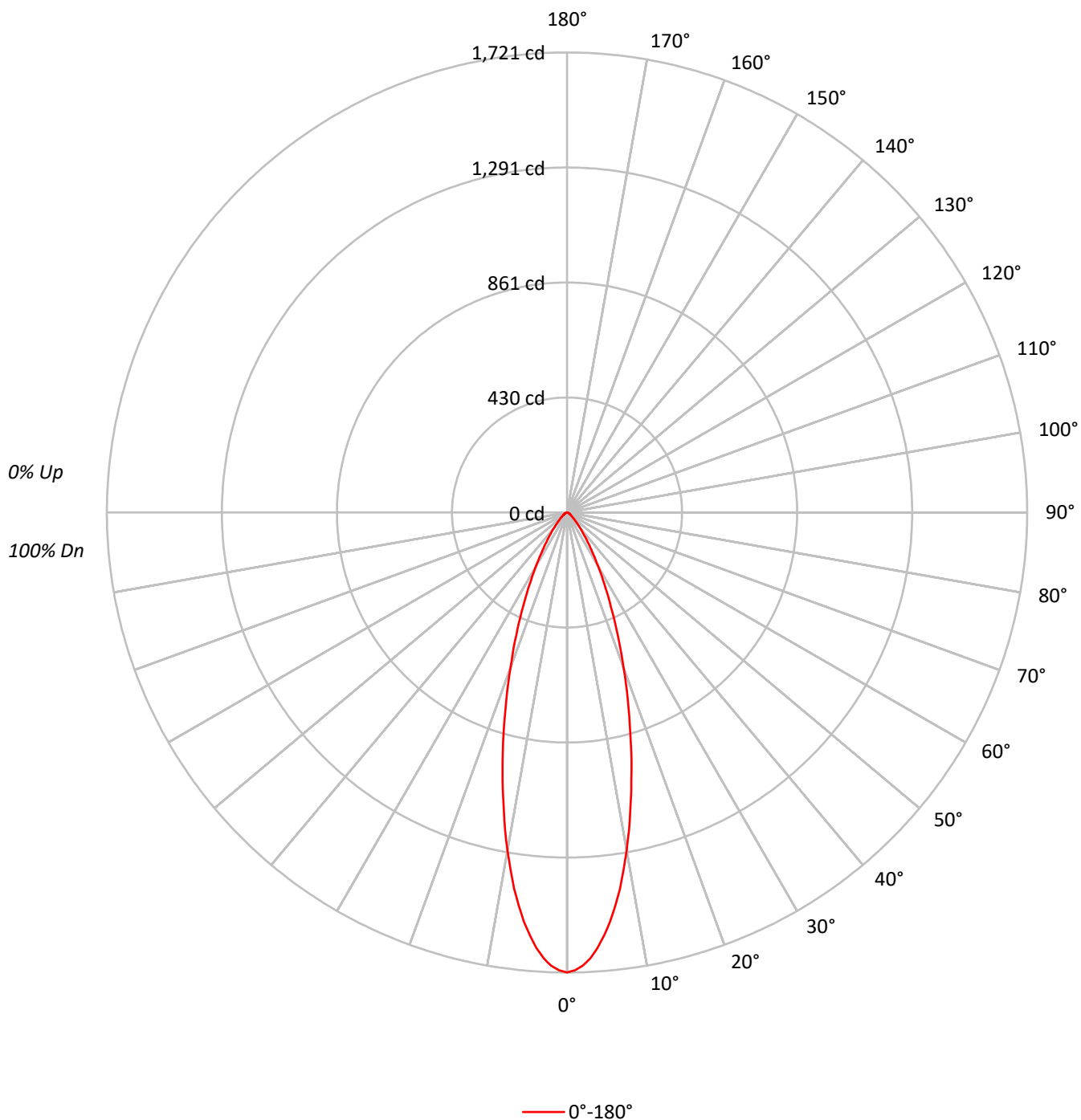
Input Watts (W): 10.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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	102	99	96	99	96	94		96	94	92		94
3	104	98	93	90	102	96	92	89	94	90	87		92	89	86		89
4	99	92	87	83	97	91	86	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	70	86	78	73	69	77	72	69		76	72	69		75
8	84	75	70	66	83	75	69	66	74	69	66		73	68	65		72
9	80	72	66	63	79	71	66	63	70	66	63		70	65	62		69
10	77	69	64	60	76	68	63	60	68	63	60		67	63	60		66

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	212265
5°	196695
10°	160706
15°	118554
20°	81198
25°	52751
30°	33029
35°	20192
40°	12253
45°	7693
50°	5143
55°	3720
60°	2985
65°	2773
70°	2200
75°	1239
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.8	19.5
10°-20°	255.1	35.0
20°-30°	180.9	24.8
30°-40°	86.8	11.9
40°-50°	35.9	4.9
50°-60°	16.3	2.2
60°-70°	9.1	1.2
70°-80°	3.1	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°	577.8	79.3
0°-40°	664.6	91.2
0°-60°	716.8	98.3
0°-90°	729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	729.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1721	
5°	1589	142
15°	928	255
25°	388	181
35°	134	87
45°	44	36
55°	17	16
65°	10	9
75°	3	3
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1720.9
1°	1713.1
2°	1696.7
3°	1669.9
4°	1633.5
5°	1588.6
6°	1539.2
7°	1481.3
8°	1421.6
9°	1352.3
10°	1283.1
11°	1212.2
12°	1137.8
13°	1066.8
14°	996.7
15°	928.4
16°	859.2
17°	796.0
18°	733.7
19°	676.6
20°	618.6
22.5°	494.9
25°	387.6
27.5°	301.1
30°	231.9
32.5°	175.6
35°	134.1
37.5°	101.2
40°	76.1
42.5°	58.0
45°	44.1
47.5°	34.6
50°	26.8
52.5°	21.6
55°	17.3
57.5°	14.7
60°	12.1
62.5°	10.4
65°	9.5
67.5°	7.8
70°	6.1
72.5°	4.3
75°	2.6
77.5°	1.7
80°	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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CANDELA DISTRIBUTION (continued):

	0°
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)