

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: P990897

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D40FL-TL4RDMW-1000LM-2700K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
Report Number: P990897
Test Lab: Cooper Lighting Solutions
Issue Date: 5/13/2025
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4ALSFL9FS1E-TIR4D40FL-TL4RDMW-1000LM-2700K
Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM
Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

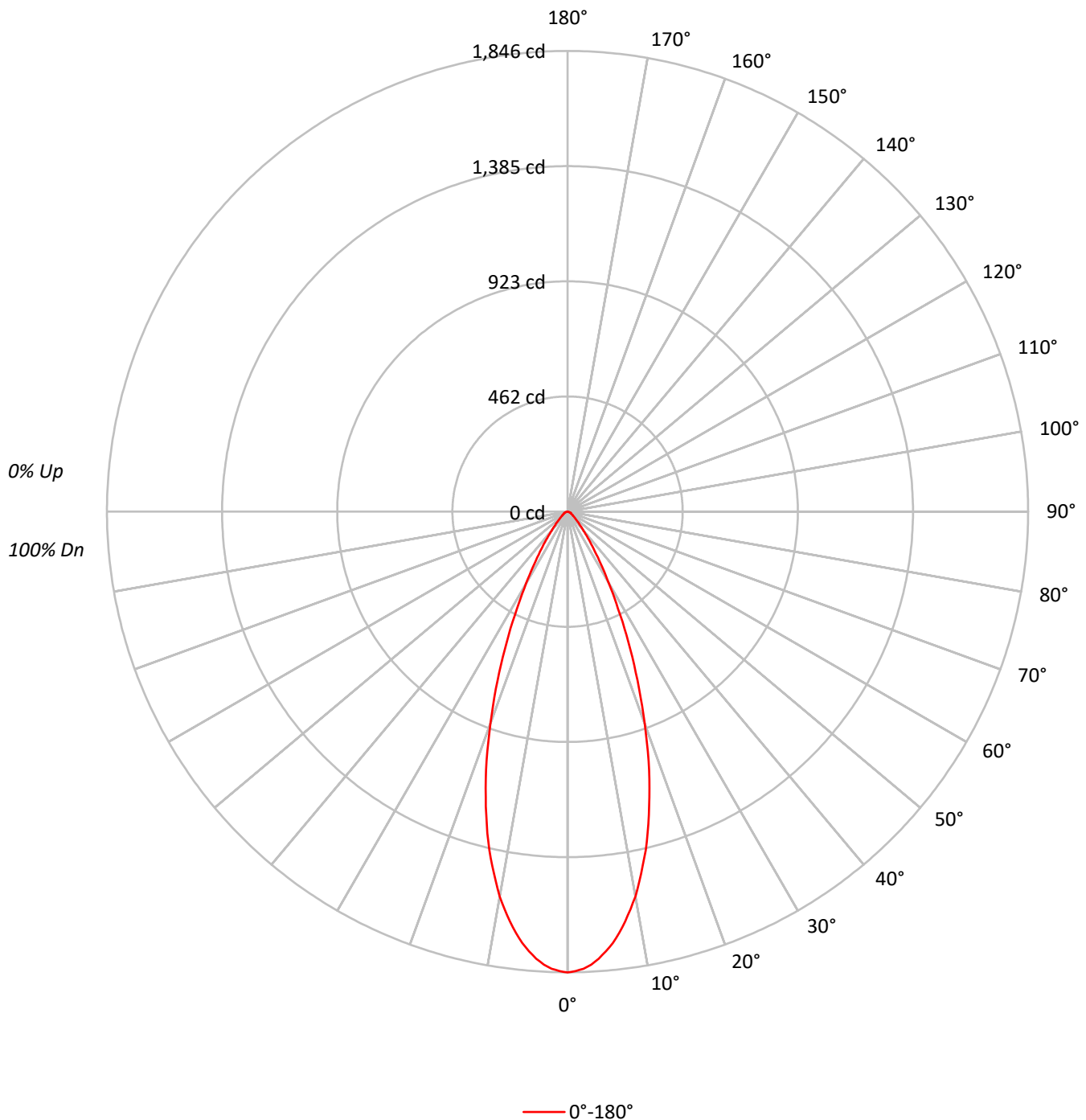
Lumens per Lamp: N/A
Luminaire Lumens: 982.2 lumens
Efficiency: N/A
Efficacy: 75.6 lumens/watt
Spacing Criteria (0/90/45): 0.64 / 0.64 / 0.64
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	114	111	109	106	111	109	107	105	105	103	102		101	100	98		98
2	108	104	100	97	106	102	98	95	99	96	93		96	93	91		93
3	103	97	92	89	101	96	91	88	93	90	87		91	88	85		89
4	99	91	86	82	97	90	85	82	88	84	81		86	83	80		84
5	94	86	81	77	93	85	80	76	84	79	76		82	78	75		81
6	90	82	76	72	89	81	76	72	79	75	71		78	74	71		77
7	86	78	72	68	85	77	72	68	76	71	68		75	70	67		73
8	83	74	68	64	81	73	68	64	72	67	64		71	67	64		70
9	79	70	65	61	78	70	65	61	69	64	61		68	64	61		67
10	76	67	62	58	75	67	62	58	66	61	58		65	61	58		65

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	227758
5°	218982
10°	196089
15°	160732
20°	118634
25°	78378
30°	47129
35°	27254
40°	16102
45°	10117
50°	6908
55°	5376
60°	4440
65°	4378
70°	3967
75°	2859
80°	710
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.3	16.5
10°-20°	344.5	35.1
20°-30°	265.7	27.1
30°-40°	119.1	12.1
40°-50°	47.0	4.8
50°-60°	22.7	2.3
60°-70°	14.5	1.5
70°-80°	6.0	0.6
80°-90°	0.4	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°	772.5	78.6
0°-40°	891.6	90.8
0°-60°	961.3	97.9
0°-90°	982.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	982.2	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1846	
5°	1769	162
15°	1259	344
25°	576	266
35°	181	119
45°	58	47
55°	25	23
65°	15	14
75°	6	6
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1846.5
1°	1841.5
2°	1832.5
3°	1817.5
4°	1795.6
5°	1768.6
6°	1738.6
7°	1700.6
8°	1658.6
9°	1612.6
10°	1565.6
11°	1508.6
12°	1450.6
13°	1392.7
14°	1327.7
15°	1258.7
16°	1190.7
17°	1120.7
18°	1050.7
19°	975.8
20°	903.8
22.5°	731.8
25°	575.9
27.5°	438.9
30°	330.9
32.5°	245.9
35°	181.0
37.5°	134.0
40°	100.0
42.5°	75.0
45°	58.0
47.5°	45.0
50°	36.0
52.5°	29.0
55°	25.0
57.5°	21.0
60°	18.0
62.5°	16.0
65°	15.0
67.5°	13.0
70°	11.0
72.5°	8.0
75°	6.0
77.5°	3.0
80°	1.0

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°	1.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)