

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: P990946

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D55WFL-TL4RDSL-1000LM-5000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990946
 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-5000K
 Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, METALLIC SILVER TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 1038.1 lumens
 Efficiency: N/A
 Efficacy: 79.9 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

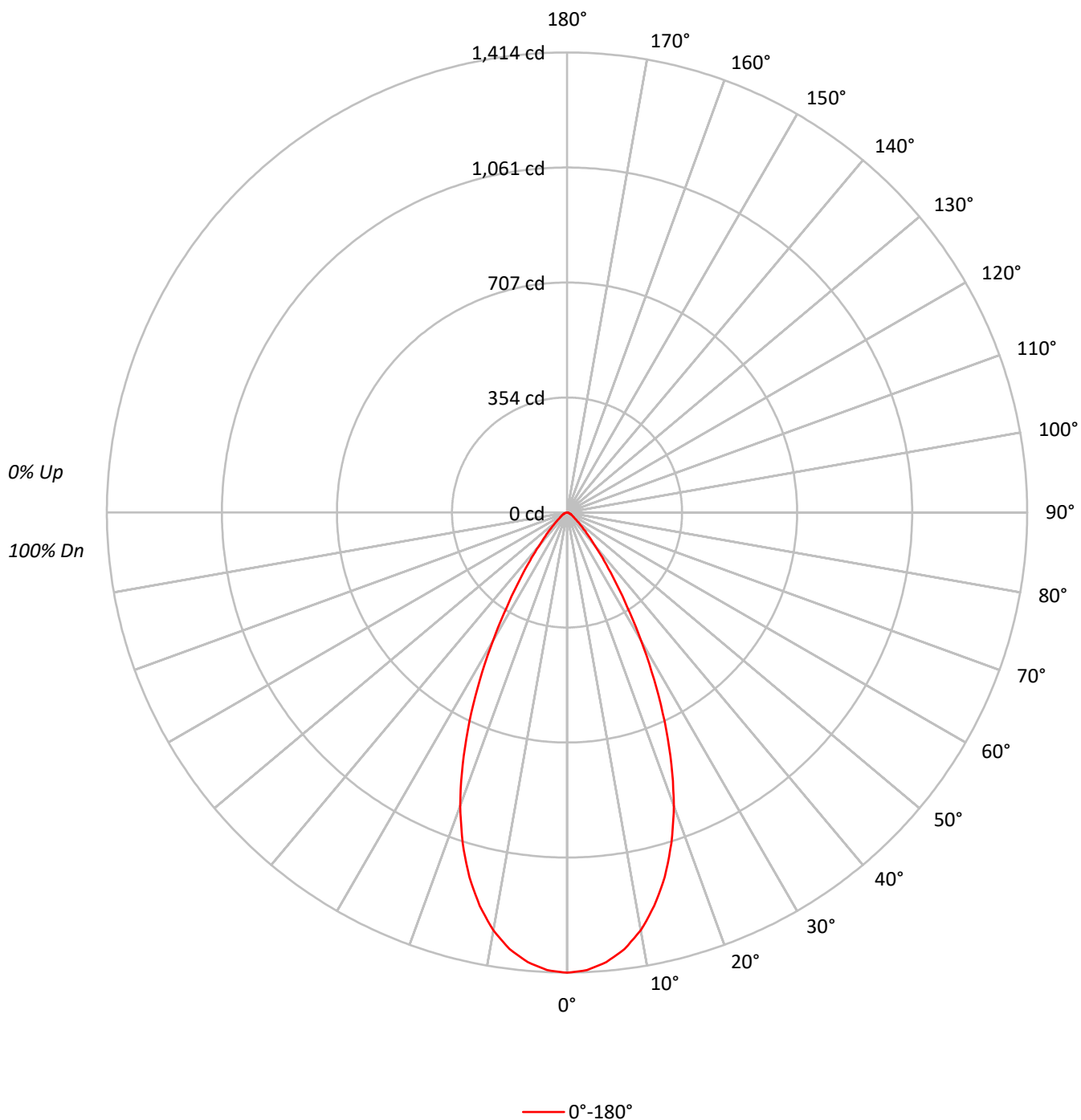
Input Watts (W): 13
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT

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°	174472
5°	171759
10°	163336
15°	148103
20°	125985
25°	96547
30°	64762
35°	38518
40°	21818
45°	12577
50°	7752
55°	5398
60°	4317
65°	3823
70°	3138
75°	2097
80°	0
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	12.5
10°-20°	320.7	30.9
20°-30°	321.1	30.9
30°-40°	166.1	16.0
40°-50°	59.4	5.7
50°-60°	23.5	2.3
60°-70°	12.9	1.2
70°-80°	4.6	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°	771.6	74.3
0°-40°	937.7	90.3
0°-60°	1020.6	98.3
0°-90°	1038.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1038.1	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1414	
5°	1387	130
15°	1160	321
25°	709	321
35°	256	166
45°	72	59
55°	25	23
65°	13	13
75°	4	5
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1414.5
2.5°	1408.0
5°	1387.2
7.5°	1353.3
10°	1304.1
12.5°	1238.5
15°	1159.8
17.5°	1065.8
20°	959.8
22.5°	838.4
25°	709.4
27.5°	579.4
30°	454.7
32.5°	344.3
35°	255.8
37.5°	186.9
40°	135.5
42.5°	98.4
45°	72.1
47.5°	53.6
50°	40.4
52.5°	30.6
55°	25.1
57.5°	20.8
60°	17.5
62.5°	15.3
65°	13.1
67.5°	10.9
70°	8.7
72.5°	6.6
75°	4.4
77.5°	2.2
80°	0.0
82.5°	0.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)