

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: P990939

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMW-1000LM-3500K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990939
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMW-1000LM-3500K
 Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 970.3 lumens
 Efficiency: N/A
 Efficacy: 74.6 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

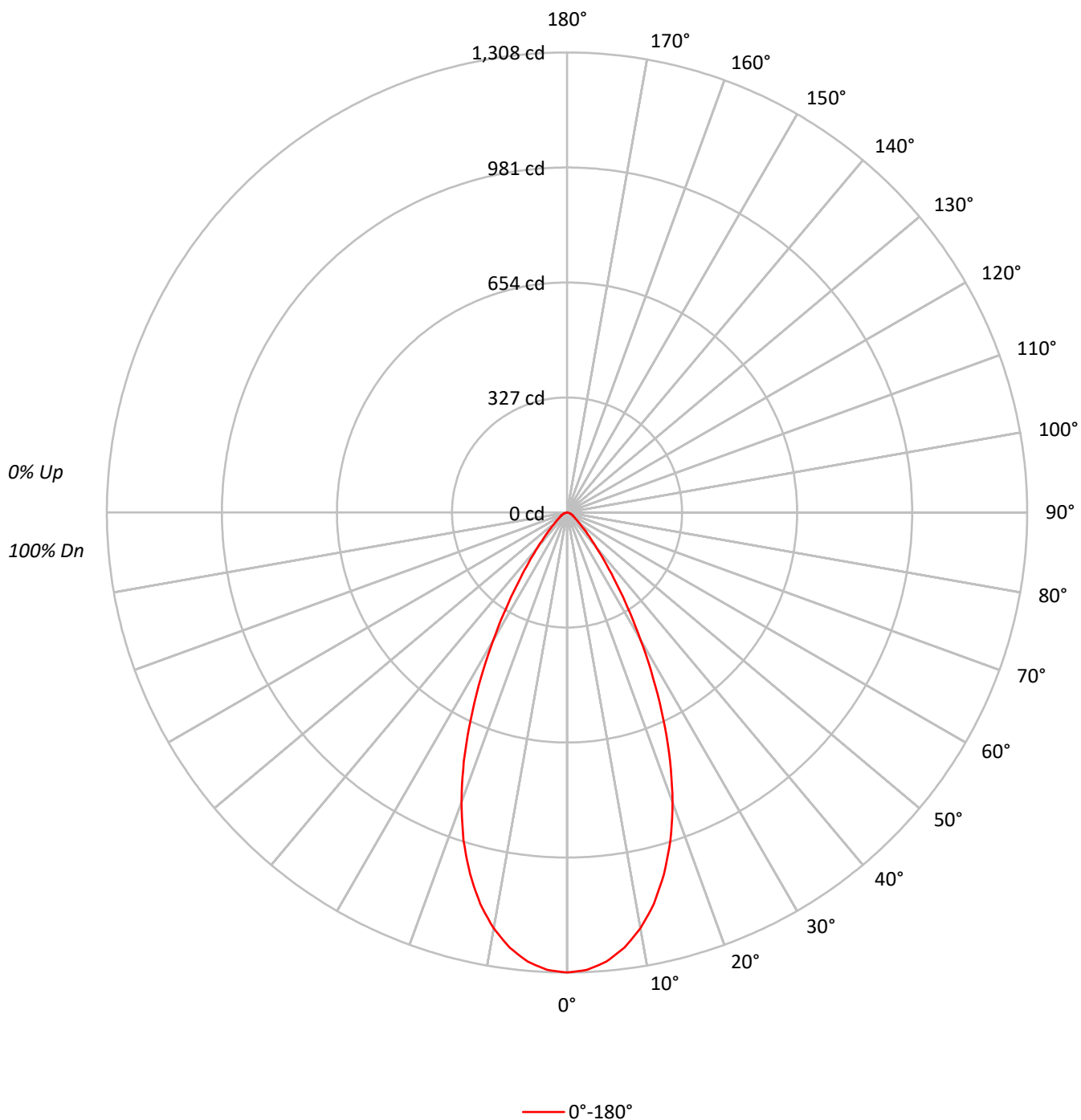
Input Watts (W): 13
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT

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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CATALOG NUMBER: ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMW-1000LM-3500K

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	102	101		101	99	98		97
2	108	103	99	95	105	101	97	94	98	95	92		95	92	90		92
3	102	96	91	87	100	94	90	86	92	88	85		89	86	83		87
4	97	89	84	80	95	88	83	79	86	82	78		84	80	77		82
5	92	84	78	74	91	83	77	73	81	76	73		79	75	72		78
6	88	79	73	69	86	78	72	68	77	72	68		75	71	67		74
7	84	74	68	64	82	74	68	64	72	67	64		71	67	63		70
8	80	70	64	60	78	70	64	60	69	64	60		68	63	60		67
9	76	67	61	57	75	66	61	57	65	60	57		64	60	56		63
10	73	63	57	54	72	63	57	54	62	57	53		61	57	53		60

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	161311
5°	158733
10°	150361
15°	135920
20°	115077
25°	88014
30°	59634
35°	36033
40°	20932
45°	12594
50°	8117
55°	5978
60°	5082
65°	4524
70°	4075
75°	2955
80°	710
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.8	12.3
10°-20°	294.4	30.3
20°-30°	293.4	30.2
30°-40°	155.4	16.0
40°-50°	58.7	6.0
50°-60°	26.0	2.7
60°-70°	15.7	1.6
70°-80°	6.5	0.7
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°	707.6	72.9
0°-40°	863.0	88.9
0°-60°	947.7	97.7
0°-90°	970.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	970.3	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1308	
5°	1282	120
15°	1064	294
25°	647	293
35°	239	155
45°	72	59
55°	28	26
65°	16	16
75°	6	7
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

0°	
0°	1307.8
2.5°	1301.6
5°	1282.0
7.5°	1248.0
10°	1200.5
12.5°	1139.7
15°	1064.4
17.5°	977.7
20°	876.7
22.5°	766.3
25°	646.7
27.5°	529.1
30°	418.7
32.5°	320.8
35°	239.3
37.5°	177.4
40°	130.0
42.5°	95.9
45°	72.2
47.5°	53.6
50°	42.3
52.5°	34.0
55°	27.8
57.5°	23.7
60°	20.6
62.5°	18.6
65°	15.5
67.5°	13.4
70°	11.3
72.5°	9.3
75°	6.2
77.5°	3.1
80°	1.0
82.5°	1.0
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)