

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: P990941

Luminaire Tested: **ML4ALSFL9FS1E-TIR4D55WFL-TL4RDMW-1000LM-5000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990941
 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-5000K
 Description: 4IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR, MATTE WHITE TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 5000K CCT
 Ballast/Driver: -

Summary

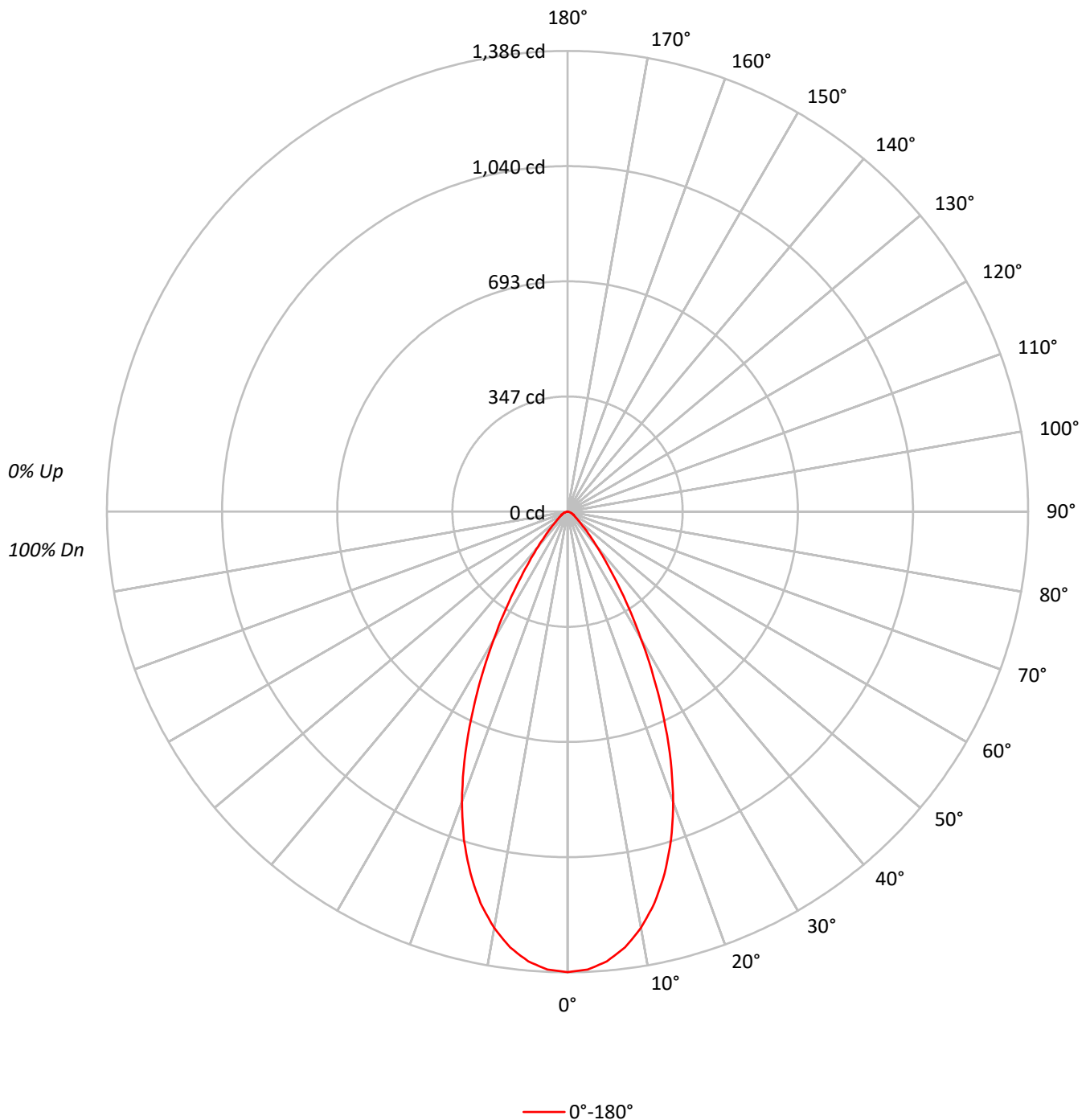
Lumens per Lamp: N/A
 Luminaire Lumens: 1028.0 lumens
 Efficiency: N/A
 Efficacy: 79.1 lumens/watt
 Spacing Criteria (0/90/45): 0.79 / 0.79 / 0.77
 Luminous Opening: Circular (Dia: 0.33' x H: 0')
 CIE Type: Direct

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	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°	170895
5°	168168
10°	159303
15°	144004
20°	121916
25°	93240
30°	63181
35°	38171
40°	22172
45°	13344
50°	8597
55°	6344
60°	5403
65°	4787
70°	4328
75°	3145
80°	781
85°	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.9	12.3
10°-20°	311.9	30.3
20°-30°	310.8	30.2
30°-40°	164.6	16.0
40°-50°	62.2	6.0
50°-60°	27.6	2.7
60°-70°	16.6	1.6
70°-80°	6.9	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°	749.6	72.9
0°-40°	914.2	88.9
0°-60°	1004.0	97.7
0°-90°	1028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1028.0	100.0

CANDELA DISTRIBUTION:

	0°	Flux
0°	1386	
5°	1358	127
15°	1128	312
25°	685	311
35°	254	165
45°	76	62
55°	30	28
65°	16	17
75°	7	7
85°	0	0
90°	0	

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CANDELA DISTRIBUTION (FULL):

	0°
0°	1385.5
2.5°	1379.0
5°	1358.2
7.5°	1322.2
10°	1271.9
12.5°	1207.4
15°	1127.7
17.5°	1035.9
20°	928.8
22.5°	811.9
25°	685.1
27.5°	560.6
30°	443.6
32.5°	339.8
35°	253.5
37.5°	187.9
40°	137.7
42.5°	101.6
45°	76.5
47.5°	56.8
50°	44.8
52.5°	36.1
55°	29.5
57.5°	25.1
60°	21.9
62.5°	19.7
65°	16.4
67.5°	14.2
70°	12.0
72.5°	9.8
75°	6.6
77.5°	3.3
80°	1.1
82.5°	1.1
85°	0.0
87.5°	0.0
90°	0.0

(END OF REPORT)