

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: P990809

Luminaire Tested: **ML3ALSFL9FS1E-TIR4D55WFL-TL3SDSL-750LM-3500K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990809
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML3ALSFL9FS1E-TIR4D55WFL-TL3SDSL-750LM-3500K
 Description: 3IN SQUARE ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 55D TIR,
 METALLIC SILVER TRIM
 Light Source: (1) STANDARD SELECTABLE LUMEN LED 90CRI / 3500K CCT
 Ballast/Driver: -

Summary

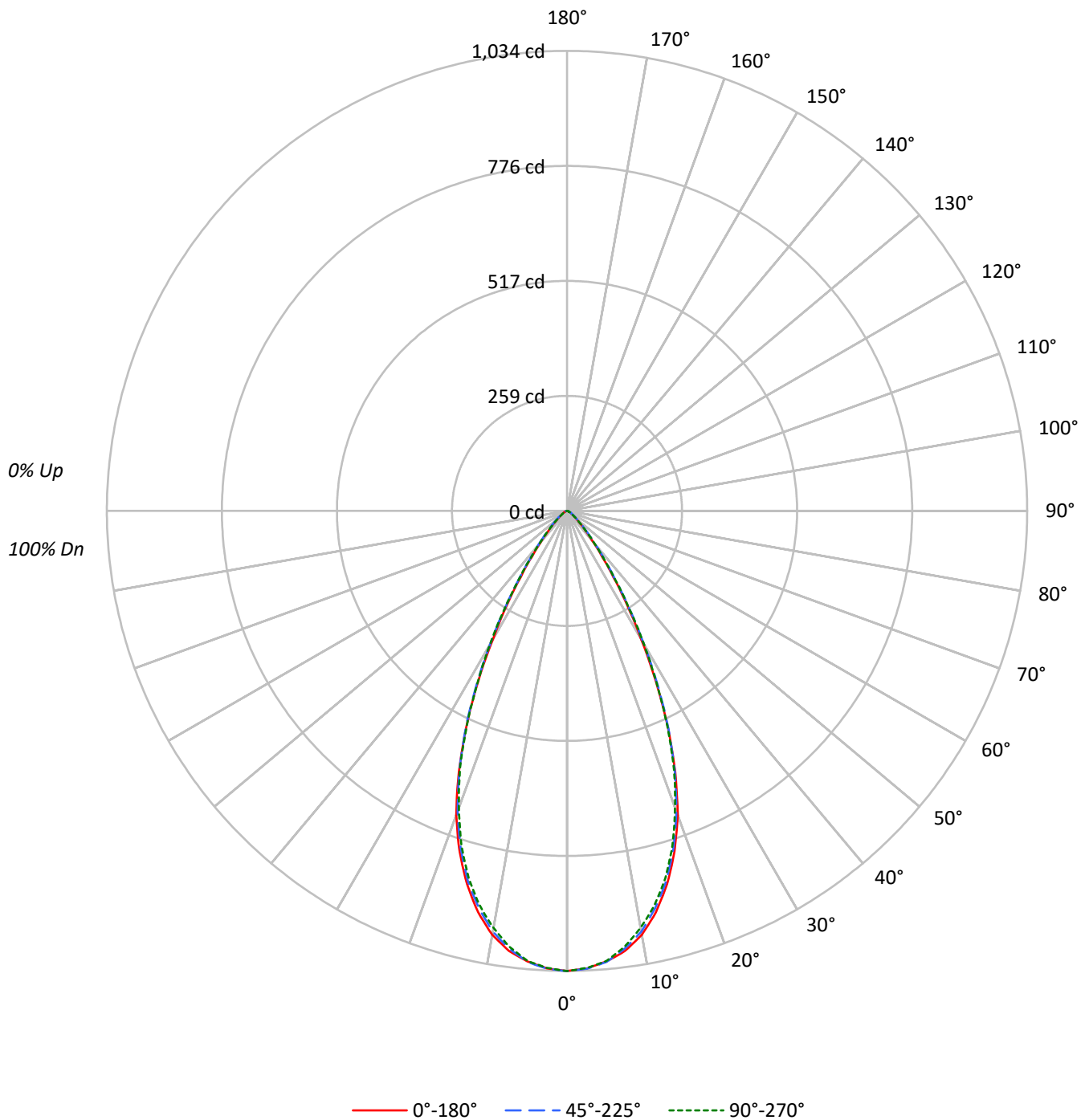
Lumens per Lamp: N/A
 Luminaire Lumens: 765.3 lumens
 Efficiency: N/A
 Efficacy: 78.9 lumens/watt
 Spacing Criteria (0/90/45): 0.81 / 0.8 / 0.78
 Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.7
 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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	114	111	108	106	111	109	106	104	105	103	101		101	100	98		97	96	95	94
2	108	103	99	96	106	102	98	95	98	95	93		95	93	91		93	91	89	87
3	103	96	92	88	101	95	91	87	92	89	86		90	87	84		88	85	83	81
4	98	90	85	81	96	89	84	80	87	83	79		85	81	78		83	80	78	76
5	93	85	79	75	91	84	79	75	82	77	74		80	76	73		79	75	73	71
6	89	80	74	70	87	79	74	70	78	73	69		76	72	69		75	71	68	67
7	84	75	70	65	83	75	69	65	73	69	65		72	68	65		71	67	64	63
8	81	71	65	62	79	71	65	61	70	65	61		69	64	61		68	64	61	59
9	77	68	62	58	76	67	62	58	66	61	58		65	61	57		64	60	57	56
10	74	64	59	55	73	64	58	55	63	58	55		62	58	54		61	57	54	53

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	178130	178130	178130
5°	175750	175923	175560
10°	169213	167937	166468
15°	154852	153550	152249
20°	133388	131665	130126
25°	101835	102234	101246
30°	66143	68430	68629
35°	38138	40115	39905
40°	20863	22505	21808
45°	11691	13201	11934
50°	6698	8386	6993
55°	4384	5315	4384
60°	3238	3961	3238
65°	2567	3382	2975
70°	2115	2618	2115
75°	1397	2063	1397
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.2	12.4
10°-20°	238.2	31.1
20°-30°	241.9	31.6
30°-40°	122.7	16.0
40°-50°	42.3	5.5
50°-60°	15.2	2.0
60°-70°	7.2	0.9
70°-80°	2.5	0.3
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°	575.4	75.2
0°-40°	698.1	91.2
0°-60°	755.6	98.7
0°-90°	765.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	765.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1034	1034	1034	1034	1034	
5°	1017	1018	1018	1014	1016	96
15°	868	866	861	855	854	241
25°	536	538	538	536	533	242
35°	181	184	191	191	190	119
45°	48	51	54	52	49	39
55°	15	16	18	16	15	14
65°	6	7	8	7	7	7
75°	2	2	3	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1034.3	1034.3	1034.3	1034.3	1034.3
2.5°	1029.1	1029.1	1030.1	1028.0	1028.0
5°	1016.6	1017.6	1017.6	1014.5	1015.5
7.5°	997.8	995.7	992.6	989.5	988.4
10°	967.6	965.5	960.3	956.1	951.9
12.5°	923.8	921.7	914.4	909.2	908.1
15°	868.5	866.4	861.2	855.0	853.9
17.5°	802.8	800.7	794.5	789.3	788.2
20°	727.8	722.5	718.4	714.2	710.0
22.5°	635.0	631.8	631.8	629.7	628.7
25°	535.9	538.0	538.0	535.9	532.8
27.5°	432.7	437.9	440.0	436.9	434.8
30°	332.6	340.9	344.1	345.1	345.1
32.5°	251.3	252.3	259.6	259.6	260.7
35°	181.4	184.5	190.8	190.8	189.8
37.5°	129.3	132.4	138.7	138.7	136.6
40°	92.8	94.9	100.1	100.1	97.0
42.5°	66.7	68.8	73.0	71.9	69.9
45°	48.0	51.1	54.2	52.1	49.0
47.5°	33.4	36.5	40.7	38.6	36.5
50°	25.0	27.1	31.3	28.2	26.1
52.5°	18.8	19.8	22.9	20.9	18.8
55°	14.6	15.6	17.7	15.6	14.6
57.5°	11.5	12.5	14.6	12.5	11.5
60°	9.4	10.4	11.5	10.4	9.4
62.5°	8.3	8.3	9.4	8.3	8.3
65°	6.3	7.3	8.3	7.3	7.3
67.5°	5.2	5.2	6.3	6.3	5.2
70°	4.2	4.2	5.2	5.2	4.2
72.5°	3.1	3.1	4.2	3.1	3.1
75°	2.1	2.1	3.1	2.1	2.1
77.5°	1.0	1.0	2.1	1.0	1.0
80°	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)