

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: P990677

Luminaire Tested: **ML2ALSFLD2W1E-TIR1D40FL-TL2RDMW-20°-400LM-3000K**

Issue Date: 5/13/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P990677
 Test Lab: Cooper Lighting Solutions
 Issue Date: 5/13/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML2ALSFLD2W1E-TIR1D40FL-TL2RDMW-20°-400LM-3000K
 Description: 2IN ROUND ML FLEX ADJUSTABLE, SELECTABLE CCT, WITH 40D TIR, MATTE WHITE TRIM 20° Tilt
 Light Source: (1) D2W LED 90CRI / 3000K CCT
 Ballast/Driver: -

Summary

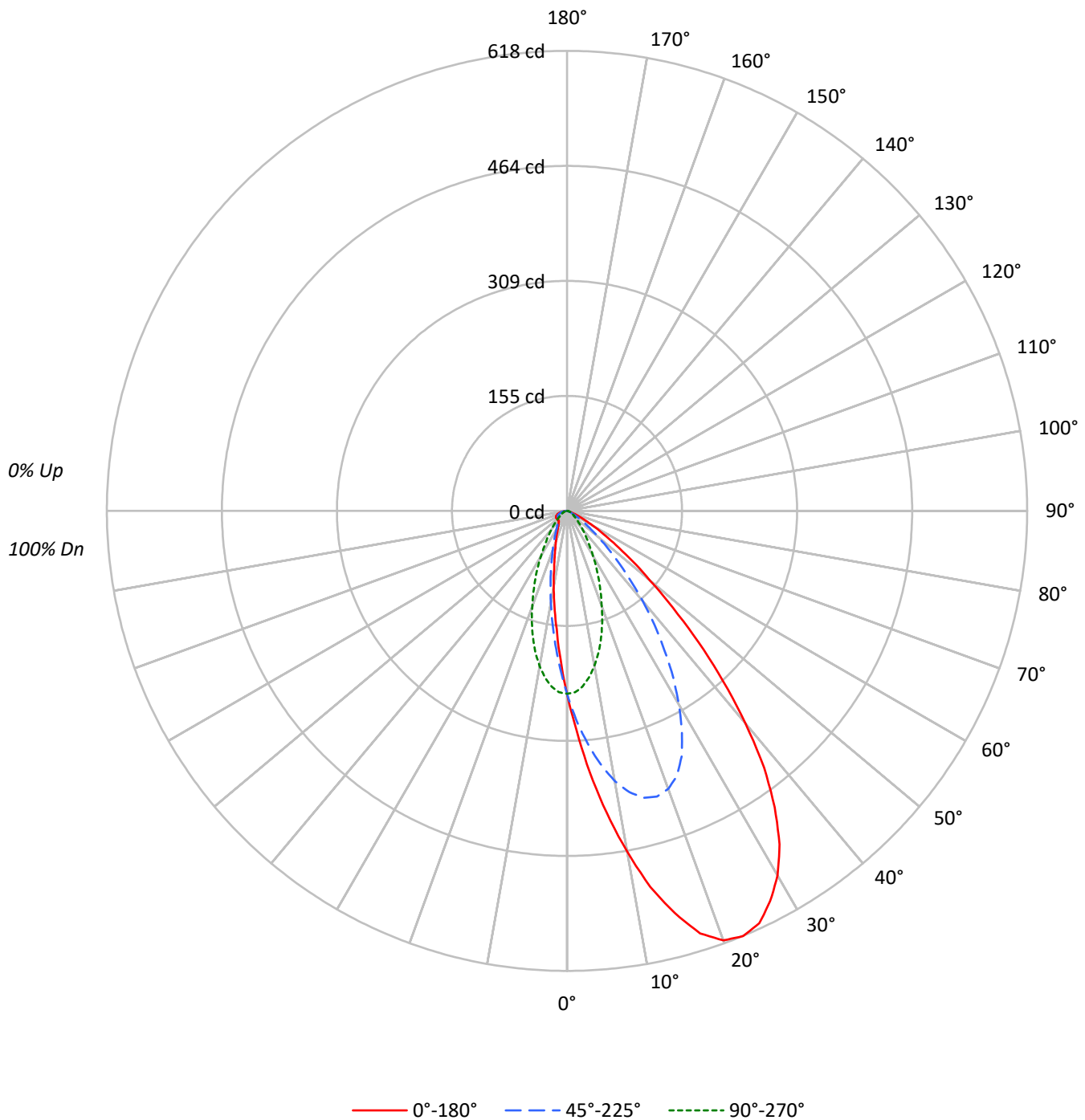
Lumens per Lamp: N/A
 Luminaire Lumens: 368.3 lumens
 Efficiency: N/A
 Efficacy: 60.4 lumens/watt
 Spacing Criteria (0/90/45): 1.48 / 0.69 / 1.03
 Luminous Opening: Circular (Dia: 0.17' x H: 0')
 CIE Type: Direct

Input Watts (W): 6.1
 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	112	109	106	103	109	106	104	101	102	100	98		99	97	95		95
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		88
3	98	90	84	79	96	89	83	79	86	81	77		84	79	76		81
4	92	83	76	71	90	81	75	70	79	74	69		77	72	69		75
5	86	76	69	64	84	75	68	63	73	67	63		71	66	62		70
6	81	70	63	58	79	69	62	58	68	62	57		66	61	57		65
7	76	65	58	53	74	64	57	53	63	57	52		61	56	52		60
8	71	60	53	48	70	60	53	48	58	52	48		57	52	48		56
9	67	56	49	45	66	56	49	44	55	48	44		54	48	44		53
10	64	52	46	41	63	52	45	41	51	45	41		50	45	41		49

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	121174	121174	121174
5°	174828	117378	78945
10°	232810	105960	51251
15°	285682	90153	32639
20°	322324	71616	22839
25°	332782	54765	16713
30°	322055	39822	13103
35°	292720	28730	11805
40°	239977	20868	11013
45°	174296	15490	11931
50°	111911	11744	13125
55°	68900	9548	14709
60°	41247	8387	16874
65°	21948	7005	18912
70°	11108	7357	19619
75°	3241	4956	21160
80°	0	4830	19321
85°	0	5095	19247

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.6	6.4
10°-20°	68.5	18.6
20°-30°	94.7	25.7
30°-40°	86.5	23.5
40°-50°	52.8	14.3
50°-60°	24.3	6.6
60°-70°	11.2	3.0
70°-80°	5.2	1.4
80°-90°	1.5	0.4
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°	186.8	50.7
0°-40°	273.3	74.2
0°-60°	350.4	95.1
0°-90°	368.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	368.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	246	246	246	246	246	
5°	353	313	237	180	159	37
15°	559	399	176	84	64	159
25°	611	364	101	39	31	278
35°	486	228	48	22	20	299
45°	250	97	22	15	17	194
55°	80	29	11	14	17	76
65°	19	7	6	13	16	21
75°	2	2	3	8	11	3
85°	0	0	1	3	3	0
90°	0	0	0	0	0	

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CATALOG NUMBER: ML2ALSFLD2W1E-TIR1D40FL-TL2RDMW-20°-400LM-3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	67.5°
0°	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6	245.6
2.5°	295.0	296.7	295.9	295.0	293.3	290.7	289.0	286.5	283.9	280.5	262.6
5°	353.0	350.4	351.3	348.7	342.8	339.3	334.2	326.6	320.6	312.9	276.3
7.5°	409.3	406.7	403.3	399.0	393.9	383.7	377.7	366.6	355.5	342.8	283.1
10°	464.7	462.1	458.7	452.7	442.5	432.3	416.9	401.6	385.4	368.3	284.8
12.5°	517.5	513.3	507.3	498.8	485.1	470.7	454.5	433.1	410.1	387.1	281.4
15°	559.3	557.6	549.9	539.7	523.5	504.8	481.7	454.5	427.2	399.0	272.8
17.5°	595.1	589.2	583.2	569.6	549.9	526.1	498.8	468.9	435.7	402.4	259.2
20°	613.9	611.3	601.1	585.8	565.3	538.9	507.3	471.5	435.7	397.3	241.3
22.5°	618.2	615.6	605.4	588.3	566.1	536.3	503.1	465.5	424.6	385.4	220.8
25°	611.3	607.9	596.8	578.1	554.2	522.7	486.9	446.8	405.9	364.1	197.0
27.5°	590.9	587.5	575.5	555.9	531.2	497.9	458.7	418.6	376.9	334.2	173.1
30°	565.3	561.0	546.5	526.9	499.6	464.7	426.3	384.5	341.9	300.1	150.1
32.5°	531.2	526.1	511.6	491.1	461.3	426.3	387.9	345.3	304.4	265.2	127.0
35°	486.0	481.7	467.2	445.9	416.9	379.4	344.5	303.5	266.0	227.7	104.9
37.5°	434.8	427.2	416.1	393.1	364.1	331.7	295.0	260.1	225.1	192.7	85.3
40°	372.6	368.3	353.8	335.9	307.8	278.8	247.3	214.9	185.0	157.7	68.2
42.5°	310.4	307.8	293.3	273.7	253.2	227.7	200.4	173.1	149.2	125.3	53.7
45°	249.8	244.7	235.3	218.3	201.2	179.1	157.7	136.4	116.8	97.2	41.8
47.5°	192.7	191.0	182.5	171.4	156.0	139.0	121.9	104.0	88.7	74.2	31.5
50°	145.8	145.8	138.1	129.6	117.7	104.9	91.2	79.3	65.7	55.4	24.7
52.5°	110.8	108.3	104.0	96.3	87.0	77.6	67.4	58.0	48.6	40.1	18.8
55°	80.1	80.1	76.7	70.8	64.8	56.3	49.5	41.8	35.0	29.0	14.5
57.5°	58.0	57.1	54.6	51.2	46.0	40.9	35.0	29.8	24.7	20.5	11.1
60°	41.8	40.9	38.4	35.8	32.4	28.1	24.7	20.5	17.1	14.5	8.5
62.5°	28.1	28.1	26.4	24.7	22.2	19.6	16.2	14.5	11.9	10.2	6.8
65°	18.8	18.8	17.9	16.2	14.5	12.8	11.1	9.4	8.5	6.8	5.1
67.5°	11.9	11.9	11.9	10.2	9.4	8.5	7.7	6.8	6.0	5.1	4.3
70°	7.7	7.7	6.8	6.8	6.0	5.1	5.1	4.3	4.3	3.4	3.4
72.5°	4.3	4.3	4.3	3.4	3.4	3.4	2.6	2.6	2.6	2.6	2.6
75°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
77.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.9	0.9	0.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	90°	112.5°	135°	157.5°	180°
0°	245.6	245.6	245.6	245.6	245.6
2.5°	243.9	225.9	211.5	202.9	199.5
5°	237.0	203.8	179.9	165.4	159.4
7.5°	225.9	181.6	150.9	133.0	128.7
10°	211.5	158.6	124.5	106.6	102.3
12.5°	195.3	135.6	102.3	84.4	80.1
15°	176.5	116.0	83.6	69.1	63.9
17.5°	156.9	97.2	67.4	56.3	52.0
20°	136.4	81.0	56.3	46.0	43.5
22.5°	117.7	67.4	46.9	38.4	36.7
25°	100.6	56.3	39.2	33.3	30.7
27.5°	84.4	46.9	33.3	28.1	26.4
30°	69.9	39.2	28.1	24.7	23.0
32.5°	57.1	33.3	24.7	22.2	21.3
35°	47.7	28.1	22.2	19.6	19.6
37.5°	39.2	24.7	19.6	17.9	17.9
40°	32.4	21.3	17.9	17.1	17.1
42.5°	27.3	18.8	16.2	16.2	17.1
45°	22.2	16.2	15.3	16.2	17.1
47.5°	17.9	14.5	15.3	16.2	17.1
50°	15.3	13.6	14.5	16.2	17.1
52.5°	12.8	12.8	14.5	16.2	17.1
55°	11.1	11.9	14.5	16.2	17.1
57.5°	9.4	11.1	14.5	16.2	17.1
60°	8.5	10.2	13.6	16.2	17.1
62.5°	7.7	10.2	13.6	15.3	16.2
65°	6.0	9.4	12.8	15.3	16.2
67.5°	6.0	8.5	11.9	14.5	14.5
70°	5.1	7.7	11.1	12.8	13.6
72.5°	4.3	6.8	9.4	11.9	12.8
75°	2.6	5.1	7.7	10.2	11.1
77.5°	2.6	4.3	6.8	8.5	9.4
80°	1.7	3.4	5.1	6.8	6.8
82.5°	0.9	2.6	3.4	5.1	5.1
85°	0.9	1.7	2.6	3.4	3.4
87.5°	0.9	0.9	0.9	0.9	1.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)