

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: P601394

Luminaire Tested: **ML4DM08LSAWW95FS1E - TIR4D25AWW - TL45R6G_ TL46S6G_ 3500K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601394
 Test Lab: COOPER LIGHTING SOLUTIONS
 Issue Date: 7/29/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4DM08LSAWW95FS1E - TIR4D25AWW - TL45R6G_ TL46S6G_ 3500K
 Description: DIRECT MOUNT, 25D WW OPTIC, LINEAR SPREAD LENS TRIM
 Light Source: (1) SELECTABLE LUMEN LED 95CRI / 3500K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 771.6 lumens
 Efficiency: N/A
 Efficacy: 74.9 lumens/watt
 Spacing Criteria (0/90/45): 1.21 / 0.78 / 1
 Luminous Opening: Circular (Dia: 0.21' x H: 0')
 CIE Type: Direct

Input Watts (W): 10.3
 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

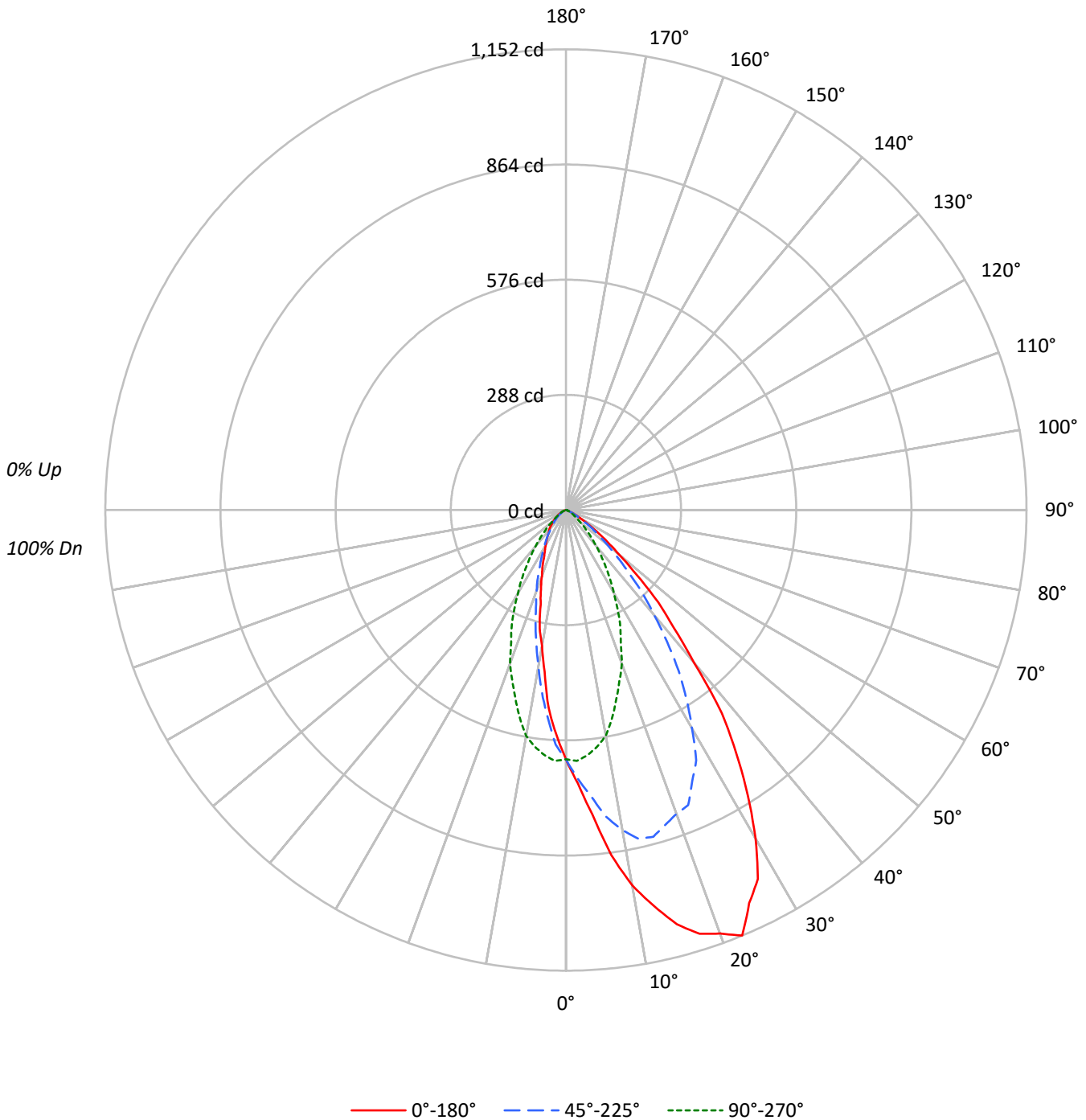


Meas		Calibration Due Date	
Instrument	Identificatio		
Photometer	GONIO 1 11111111	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	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	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	100	100	96	96	96	92	92	92	88	88	88	84	84	84	
1	113	110	107	104	110	107	105	103	103	101	99	100	98	96	96	95	94	92	92	91	95	92	89	92	90	87	90	87	85	83	83	83	
2	106	100	96	92	104	99	95	91	95	92	89	92	90	87	90	87	85	83	83	81	88	84	80	86	82	79	83	80	78	76	76	76	
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76	76	73	82	76	72	79	75	72	78	74	71	69	69	69	
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	78	74	71	69	69	66	76	70	66	74	69	65	72	68	65	63	63	63	
5	88	78	72	67	86	77	71	67	76	70	66	74	69	65	72	68	65	63	63	61	70	65	60	69	64	60	67	63	59	58	58	58	
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	59	58	58	56	77	67	60	64	59	55	63	58	55	53	53	53	
7	78	68	61	56	77	67	60	56	65	60	55	64	59	55	63	58	55	53	53	51	61	55	51	60	55	51	59	54	51	49	49	49	
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49	49	48	57	52	47	56	51	47	55	51	47	46	46	46	
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46	46	44	65	55	48	44	54	48	44	53	48	44	42	42	42
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42	42	42	54	48	44	53	48	44	52	47	44	42	42	42	42

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	196785	196785	196785
5°	242388	195096	157630
10°	305470	183885	110620
15°	350572	159529	79765
20°	378639	137369	59007
25°	377953	112083	44945
30°	345691	87252	36826
35°	286372	66495	30568
40°	205648	48681	26917
45°	145757	33313	22194
50°	85525	21369	18323
55°	51363	14534	14534
60°	27472	10799	10799
65°	15093	8144	6949
70°	8586	5724	4339
75°	3782	3782	0
80°	2909	2909	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.0	7.7
10°-20°	160.7	20.8
20°-30°	210.0	27.2
30°-40°	180.1	23.3
40°-50°	103.0	13.4
50°-60°	42.1	5.5
60°-70°	13.5	1.7
70°-80°	2.9	0.4
80°-90°	0.3	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°	429.8	55.7
0°-40°	609.8	79.0
0°-60°	755.0	97.8
0°-90°	771.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	771.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	623	623	623	623	623	
5°	765	718	616	521	497	79
15°	1072	846	488	294	244	303
25°	1085	748	322	154	129	496
35°	743	491	172	81	79	459
45°	326	222	75	40	50	248
55°	93	76	26	19	26	88
65°	20	17	11	8	9	22
75°	3	3	3	2	0	4
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	45°	67.5°	90°	112.5°	135°
0°	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2	623.2
2.5°	683.8	697.8	693.2	700.9	699.4	685.4	671.4	649.6	627.9	615.5	587.5
5°	764.7	781.8	794.2	784.9	780.2	769.3	718.0	669.9	615.5	561.1	520.7
7.5°	870.3	865.7	879.7	851.7	853.2	848.6	774.0	680.7	596.8	517.5	460.0
10°	952.7	938.7	952.7	943.4	924.7	903.0	812.8	676.1	573.5	474.0	396.3
12.5°	1013.3	1032.0	1032.0	1010.2	991.6	966.7	842.4	673.0	533.1	421.2	341.9
15°	1072.4	1078.6	1067.7	1050.6	1032.0	980.7	845.5	652.8	488.0	369.9	293.7
17.5°	1111.2	1112.8	1108.1	1092.6	1066.2	1035.1	825.3	634.1	446.1	329.5	247.1
20°	1126.8	1114.4	1112.8	1084.8	1061.5	1033.5	808.2	589.0	408.8	281.3	214.5
22.5°	1151.7	1122.1	1122.1	1094.1	1046.0	1041.3	798.9	537.7	357.5	240.9	183.4
25°	1084.8	1080.2	1089.5	1050.6	1013.3	1005.6	747.6	498.9	321.7	208.3	153.9
27.5°	1039.7	1027.3	1014.9	990.0	954.3	935.6	705.6	449.2	279.8	174.1	130.6
30°	948.1	948.1	932.5	920.1	871.9	857.9	631.0	402.5	239.3	149.2	108.8
32.5°	847.0	833.0	834.6	820.6	791.1	780.2	561.1	351.2	206.7	121.2	94.8
35°	742.9	727.4	719.6	708.7	704.0	669.9	491.1	303.1	172.5	105.7	80.8
37.5°	640.3	624.8	618.6	601.5	576.6	568.8	415.0	251.8	144.5	87.0	66.8
40°	498.9	498.9	497.3	478.7	470.9	466.3	343.5	209.8	118.1	69.9	57.5
42.5°	397.9	402.5	399.4	391.7	374.6	371.5	286.0	171.0	96.4	59.1	48.2
45°	326.4	312.4	309.3	307.7	298.4	296.8	222.2	135.2	74.6	48.2	40.4
47.5°	239.3	237.8	240.9	233.1	222.2	231.6	175.6	102.6	59.1	38.9	34.2
50°	174.1	177.2	177.2	169.4	166.3	169.4	135.2	77.7	43.5	31.1	29.5
52.5°	130.6	129.0	127.4	129.0	127.4	127.4	101.0	57.5	34.2	24.9	23.3
55°	93.3	93.3	91.7	94.8	96.4	93.3	76.2	42.0	26.4	20.2	18.7
57.5°	65.3	65.3	62.2	65.3	65.3	68.4	54.4	31.1	21.8	15.5	15.5
60°	43.5	43.5	43.5	45.1	46.6	46.6	37.3	21.8	17.1	12.4	12.4
62.5°	29.5	29.5	29.5	31.1	31.1	34.2	26.4	17.1	14.0	10.9	9.3
65°	20.2	20.2	20.2	20.2	21.8	21.8	17.1	12.4	10.9	9.3	7.8
67.5°	12.4	14.0	12.4	14.0	14.0	14.0	10.9	9.3	7.8	6.2	4.7
70°	9.3	9.3	9.3	9.3	9.3	9.3	7.8	7.8	6.2	4.7	3.1
72.5°	6.2	6.2	6.2	6.2	6.2	6.2	4.7	4.7	4.7	3.1	3.1
75°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	157.5°	180°
0°	623.2	623.2
2.5°	571.9	561.1
5°	484.9	497.3
7.5°	422.7	407.2
10°	354.4	345.0
12.5°	307.7	303.1
15°	254.9	244.0
17.5°	219.1	208.3
20°	183.4	175.6
22.5°	157.0	152.3
25°	135.2	129.0
27.5°	116.6	113.5
30°	101.0	101.0
32.5°	87.0	90.1
35°	77.7	79.3
37.5°	66.8	69.9
40°	62.2	65.3
42.5°	52.8	59.1
45°	45.1	49.7
47.5°	38.9	43.5
50°	32.6	37.3
52.5°	29.5	32.6
55°	24.9	26.4
57.5°	20.2	21.8
60°	15.5	17.1
62.5°	12.4	14.0
65°	9.3	9.3
67.5°	6.2	7.8
70°	3.1	4.7
72.5°	1.6	1.6
75°	1.6	0.0
77.5°	0.0	0.0
80°	0.0	0.0
82.5°	0.0	0.0
85°	0.0	0.0
87.5°	0.0	0.0
90°	0.0	0.0

(END OF REPORT)