

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: P601383

Luminaire Tested: **ML4DM08LSAWW95FS1E - TIR4D25AWW - TL41R_ TL42S_ 3000K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601383
 Test Lab: COOPER LIGHTING SOLUTIONS
 Issue Date: 7/29/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: ML4DM08LSAWW95FS1E - TIR4D25AWW - TL41R_ TL42S_ 3000K
 Description: DIRECT MOUNT, 25D WW OPTIC, OPEN TRIM
 Light Source: (1) SELECTABLE LUMEN LED 95CRI / 3000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 593.8 lumens
 Efficiency: N/A
 Efficacy: 57.6 lumens/watt
 Spacing Criteria (0/90/45): 1.31 / 0.61 / 0.81
 Luminous Opening: Circular (Dia: 0.21' x H: 0')
 CIE Type: Direct

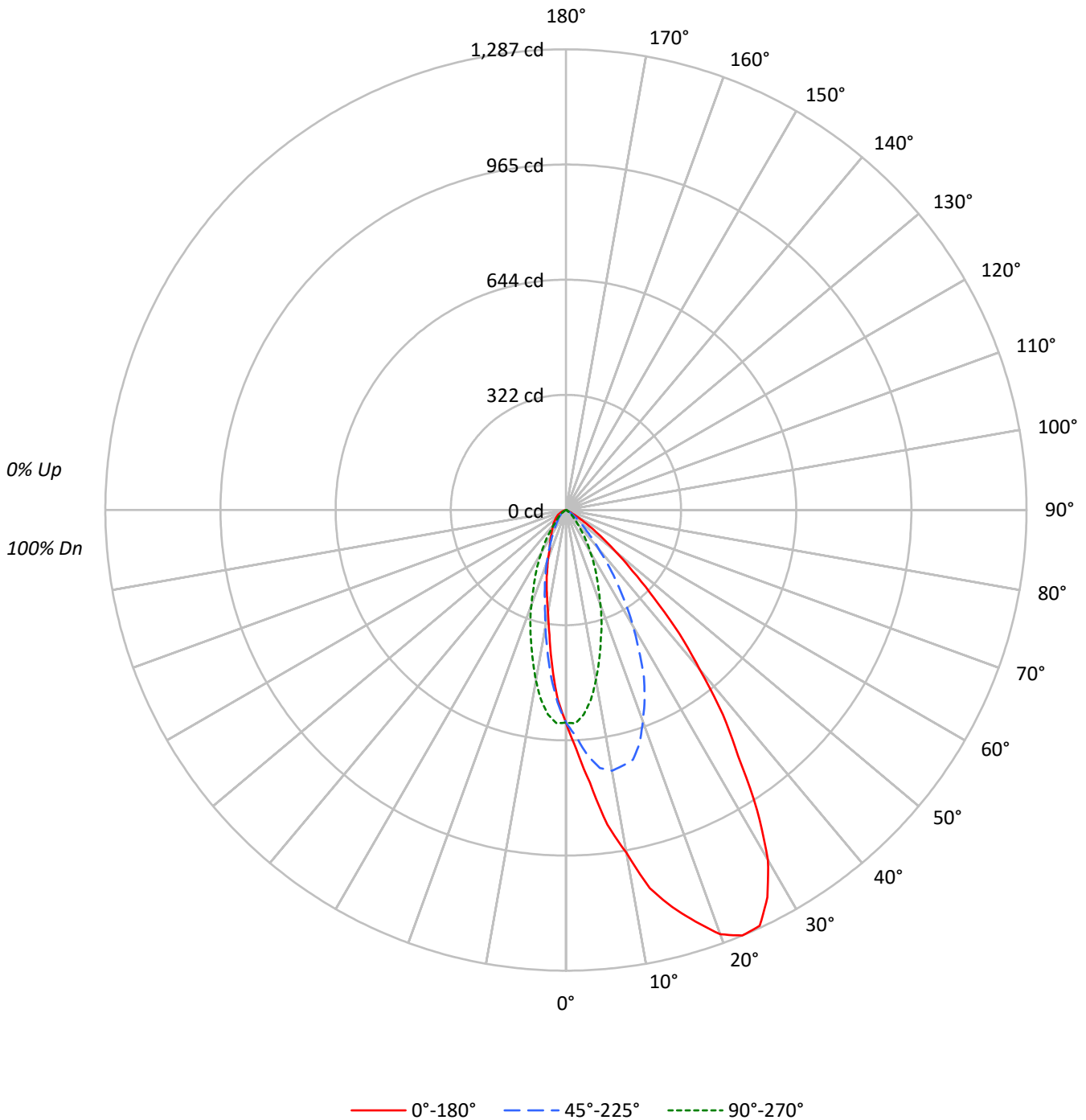
Input Watts (W): 10.3
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



Meas			
Instrument	Identificatio		Calibration Due Date
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	99	97	97	96	94	93	
1	113	110	107	105	111	108	106	103	104	102	100	100	99	97	97	96	94	93	92	91	90	89	87	85	85	
2	107	102	97	94	105	100	96	93	97	93	91	94	91	89	91	89	87	85	84	83	82	81	80	78	78	
3	101	94	89	84	99	93	88	84	90	86	82	87	84	81	85	82	80	78	77	76	75	74	73	72	72	
4	95	87	81	77	93	86	80	76	84	79	75	82	78	74	80	76	73	72	71	70	69	68	68	66	66	
5	90	81	75	70	88	80	74	70	78	73	69	76	72	68	75	71	68	67	66	65	64	63	63	61	61	
6	85	75	69	64	83	75	68	64	73	68	64	72	67	63	70	66	63	62	61	60	59	58	58	57	57	
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57	56	55	54	53	53	52	52	
8	76	66	60	55	75	65	59	55	64	59	55	63	58	55	62	58	54	53	52	51	50	50	49	49	49	
9	72	62	56	51	71	61	55	51	60	55	51	60	54	51	59	54	51	50	49	48	47	47	46	46	46	
10	69	58	52	48	68	58	52	48	57	52	48	56	51	48	55	51	48	47	46	45	45	44	44	43	43	

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	187470	187470	187470
5°	242166	181688	139436
10°	311723	154771	92375
15°	375417	123112	68094
20°	423835	94828	49396
25°	446555	70204	36966
30°	411613	50025	29789
35°	323378	33768	25904
40°	240314	20445	22877
45°	155135	13888	20408
50°	90831	10021	18176
55°	48226	6992	16075
60°	20272	3663	14146
65°	7247	2914	10909
70°	923	1754	6278
75°	1220	1220	0
80°	0	0	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.8	9.2
10°-20°	141.7	23.9
20°-30°	173.2	29.2
30°-40°	129.6	21.8
40°-50°	64.2	10.8
50°-60°	23.7	4.0
60°-70°	5.9	1.0
70°-80°	0.8	0.1
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°	369.6	62.2
0°-40°	499.2	84.1
0°-60°	587.1	98.9
0°-90°	593.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	593.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	594	594	594	594	594	
5°	764	687	573	470	440	80
15°	1148	722	377	229	208	327
25°	1282	515	202	101	106	575
35°	839	247	88	47	67	529
45°	347	81	31	26	46	277
55°	88	22	13	11	29	83
65°	10	3	4	4	15	12
75°	1	1	1	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0

TEST NUMBER: P601383

CATALOG NUMBER: ML4DM08LSAWW95FS1E - TIR4D25AWW - TL41R_ TL42S_ 3000K

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	45°	67.5°	90°	112.5°	135°
0°	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7	593.7
2.5°	668.6	668.6	676.4	663.7	663.7	659.8	631.6	615.1	596.6	569.3	537.2
5°	764.0	783.4	767.9	746.5	759.1	753.3	687.1	626.7	573.2	520.7	470.1
7.5°	886.6	891.5	877.8	850.6	844.7	840.9	727.0	627.7	534.3	455.5	397.1
10°	972.2	979.1	973.2	963.5	930.4	922.6	739.6	590.7	482.7	399.0	328.9
12.5°	1082.2	1080.3	1071.5	1043.3	1005.3	994.6	731.9	557.7	428.2	335.8	269.6
15°	1148.4	1160.1	1147.4	1072.5	1055.0	1027.7	722.1	512.9	376.6	291.0	228.7
17.5°	1205.8	1200.9	1176.6	1128.9	1084.2	1059.8	684.2	447.7	330.9	242.3	188.8
20°	1261.3	1262.3	1224.3	1165.9	1093.9	1050.1	627.7	402.9	282.2	199.5	156.7
22.5°	1286.6	1284.6	1236.0	1149.4	1065.7	1020.9	574.2	352.3	236.5	161.6	125.5
25°	1281.7	1246.7	1214.6	1112.4	1018.0	963.5	514.8	308.5	201.5	136.2	101.2
27.5°	1219.4	1201.9	1147.4	1045.2	936.2	880.8	440.9	263.7	168.4	107.1	82.7
30°	1128.9	1108.5	1043.3	958.6	815.6	771.8	375.7	216.1	137.2	91.5	68.1
32.5°	994.6	979.1	911.9	801.0	689.0	639.4	311.4	172.3	110.9	67.2	55.5
35°	838.9	837.9	778.6	688.1	571.3	520.7	247.2	138.2	87.6	53.5	46.7
37.5°	720.2	694.9	636.5	552.8	454.5	412.6	193.7	108.0	65.2	41.8	38.9
40°	583.0	572.2	510.9	439.9	353.3	322.1	143.1	80.8	49.6	34.1	35.0
42.5°	469.1	454.5	403.9	334.8	273.5	248.2	109.0	62.3	38.9	29.2	31.1
45°	347.4	340.6	311.4	249.1	202.4	184.9	80.8	48.7	31.1	24.3	26.3
47.5°	253.0	245.2	224.8	184.9	147.0	136.2	62.3	38.0	25.3	19.5	20.4
50°	184.9	180.0	166.4	134.3	108.0	99.3	46.7	29.2	20.4	15.6	17.5
52.5°	127.5	129.4	117.8	95.4	76.9	71.0	35.0	21.4	16.5	12.7	14.6
55°	87.6	85.6	80.8	62.3	49.6	45.7	22.4	14.6	12.7	9.7	10.7
57.5°	53.5	53.5	49.6	38.9	31.1	29.2	13.6	9.7	8.8	6.8	8.8
60°	32.1	32.1	27.2	22.4	18.5	16.5	7.8	5.8	5.8	4.9	6.8
62.5°	17.5	17.5	15.6	12.7	9.7	8.8	4.9	4.9	3.9	3.9	5.8
65°	9.7	8.8	7.8	5.8	4.9	4.9	2.9	3.9	3.9	3.9	3.9
67.5°	3.9	3.9	3.9	2.9	2.9	2.9	1.9	2.9	2.9	2.9	2.9
70°	1.0	1.9	1.9	1.9	1.0	1.0	1.9	1.9	1.9	1.9	1.9
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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°	593.7	593.7
2.5°	538.2	529.4
5°	450.6	439.9
7.5°	358.1	351.3
10°	292.9	288.1
12.5°	247.2	244.3
15°	209.2	208.3
17.5°	176.2	173.2
20°	144.0	147.0
22.5°	118.7	116.8
25°	100.2	106.1
27.5°	85.6	93.4
30°	74.9	81.7
32.5°	64.2	74.9
35°	56.4	67.2
37.5°	50.6	60.3
40°	46.7	55.5
42.5°	40.9	51.6
45°	36.0	45.7
47.5°	31.1	40.9
50°	28.2	37.0
52.5°	24.3	33.1
55°	20.4	29.2
57.5°	18.5	26.3
60°	15.6	22.4
62.5°	11.7	18.5
65°	8.8	14.6
67.5°	5.8	10.7
70°	2.9	6.8
72.5°	1.0	1.9
75°	0.0	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)