

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: P601392

Luminaire Tested: **ML4DM08LSAWW95FS1E - TIR4D25AWW - TL45R6G_ TL46S6G_ 2700K**

Issue Date: 7/29/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P601392
 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_ 2700K
 Description: DIRECT MOUNT, 25D WW OPTIC, LINEAR SPREAD LENS TRIM
 Light Source: (1) SELECTABLE LUMEN LED 95CRI / 2700K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: N/A
 Luminaire Lumens: 727.0 lumens
 Efficiency: N/A
 Efficacy: 70.6 lumens/watt
 Spacing Criteria (0/90/45): 1.21 / 0.78 / 1
 Luminous Opening: Circular (Dia: 0.21' x H: 0')
 CIE Type: Direct

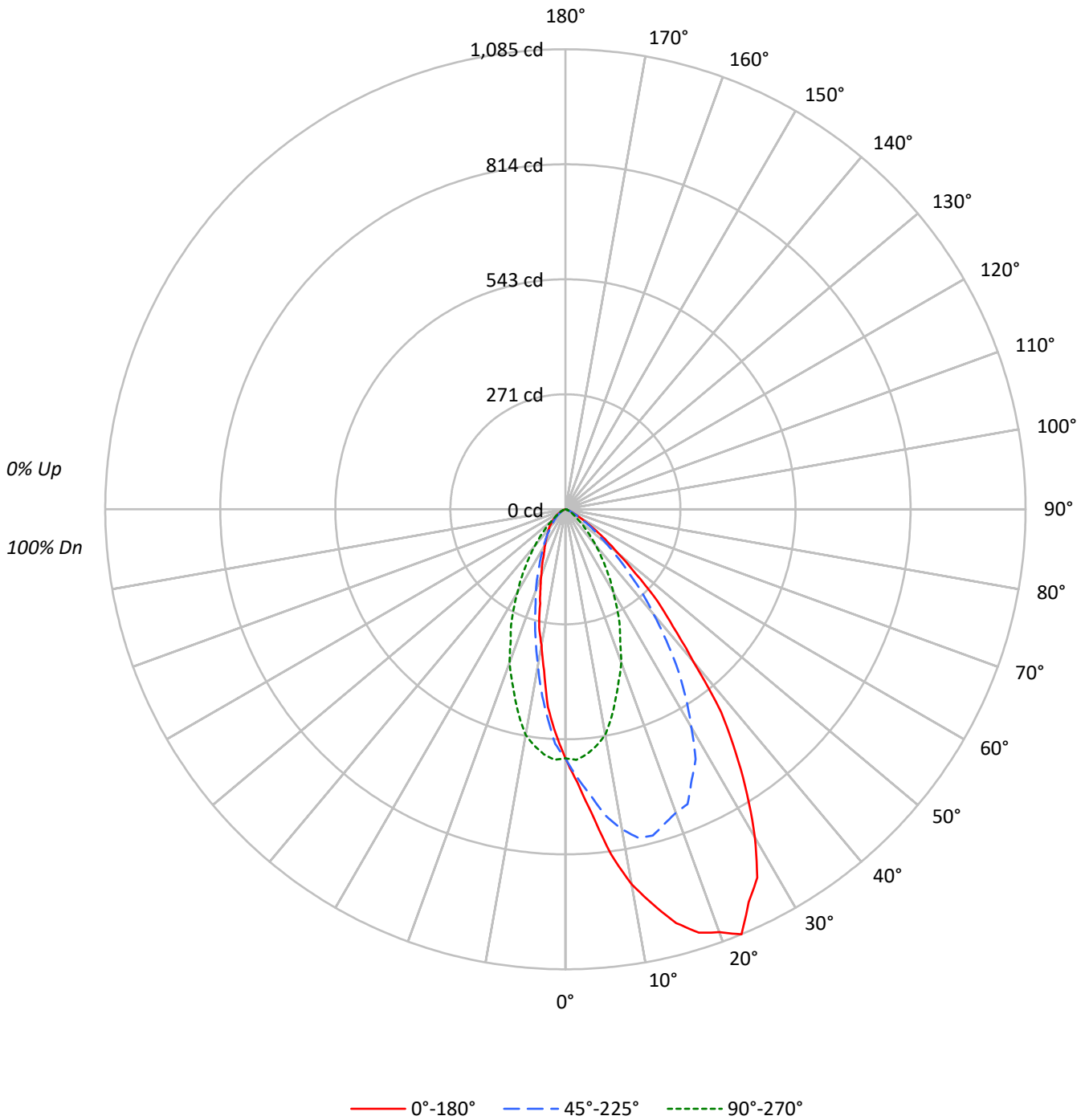
Input Watts (W): 10.3
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



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	92	90	87	87	85	83	83	80	78	76	76	
2	106	100	96	92	104	99	95	91	95	92	89	92	90	87	90	87	85	83	83	80	78	76	74	71	69	69	67	65	63	63		
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76	76	73	73	72	72	71	69	69	67	65	63	63		
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	78	74	71	69	69	66	66	65	65	64	63	63	61	59	58	58		
5	88	78	72	67	86	77	71	67	76	70	66	74	69	65	72	68	65	63	63	61	61	60	60	59	58	58	56	55	55	55		
6	83	73	66	61	81	72	65	61	70	65	60	69	64	60	67	63	59	58	58	56	56	55	55	54	53	53	51	50	50	50		
7	78	68	61	56	77	67	60	56	65	60	55	64	59	55	63	58	55	53	53	51	51	50	50	49	49	47	46	46	46	46		
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51	49	49	47	47	46	46	45	45	43	42	42	42	42		
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47	46	46	44	44	44	44	43	43	41	40	40	40	40		
10	66	55	49	44	65	55	48	44	54	48	44	53	48	44	52	47	44	42	42	40	40	40	40	39	39	37	36	36	36	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	185417	185417	185417
5°	228346	183812	148533
10°	287803	173240	104239
15°	330271	150311	75155
20°	356730	129405	55613
25°	356108	105603	42332
30°	325673	82221	34711
35°	269796	62640	28795
40°	193735	45878	25350
45°	137317	31393	20944
50°	80564	20141	17243
55°	48391	13708	13708
60°	25893	10168	10168
65°	14196	7621	6575
70°	8124	5447	4062
75°	3538	3538	0
80°	2728	2728	0
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	7.7
10°-20°	151.4	20.8
20°-30°	197.9	27.2
30°-40°	169.7	23.3
40°-50°	97.1	13.4
50°-60°	39.7	5.5
60°-70°	12.7	1.7
70°-80°	2.7	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°	404.9	55.7
0°-40°	574.6	79.0
0°-60°	711.3	97.8
0°-90°	727.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	727.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	587	587	587	587	587	
5°	720	676	580	490	469	75
15°	1010	797	460	277	230	285
25°	1022	704	303	145	122	468
35°	700	463	162	76	75	432
45°	308	209	70	38	47	234
55°	88	72	25	18	25	83
65°	19	16	10	7	9	20
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°	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2
2.5°	644.3	657.5	653.1	660.4	658.9	645.7	632.6	612.1	591.6	579.9	553.5
5°	720.4	736.5	748.2	739.5	735.1	724.8	676.5	631.1	579.9	528.6	490.5
7.5°	820.0	815.6	828.8	802.4	803.9	799.5	729.2	641.4	562.3	487.6	433.4
10°	897.6	884.4	897.6	888.8	871.2	850.7	765.8	637.0	540.3	446.6	373.4
12.5°	954.7	972.3	972.3	951.8	934.2	910.8	793.6	634.0	502.2	396.8	322.1
15°	1010.3	1016.2	1006.0	989.8	972.3	924.0	796.6	615.0	459.8	348.5	276.7
17.5°	1047.0	1048.4	1044.0	1029.4	1004.5	975.2	777.5	597.4	420.2	310.4	232.8
20°	1061.6	1049.9	1048.4	1022.1	1000.1	973.7	761.4	555.0	385.1	265.0	202.1
22.5°	1085.0	1057.2	1057.2	1030.8	985.5	981.1	752.6	506.6	336.8	227.0	172.8
25°	1022.1	1017.7	1026.5	989.8	954.7	947.4	704.3	470.0	303.1	196.2	145.0
27.5°	979.6	967.9	956.2	932.7	899.1	881.5	664.8	423.2	263.6	164.0	123.0
30°	893.2	893.2	878.6	866.8	821.5	808.3	594.5	379.2	225.5	140.6	102.5
32.5°	798.0	784.9	786.3	773.1	745.3	735.1	528.6	330.9	194.7	114.2	89.3
35°	699.9	685.3	678.0	667.7	663.3	631.1	462.7	285.5	162.5	99.6	76.1
37.5°	603.3	588.6	582.8	566.7	543.2	535.9	391.0	237.2	136.2	82.0	63.0
40°	470.0	470.0	468.6	451.0	443.7	439.3	323.6	197.7	111.3	65.9	54.2
42.5°	374.9	379.2	376.3	369.0	352.9	350.0	269.4	161.1	90.8	55.6	45.4
45°	307.5	294.3	291.4	289.9	281.1	279.7	209.4	127.4	70.3	45.4	38.1
47.5°	225.5	224.0	227.0	219.6	209.4	218.2	165.5	96.6	55.6	36.6	32.2
50°	164.0	166.9	166.9	159.6	156.7	159.6	127.4	73.2	41.0	29.3	27.8
52.5°	123.0	121.5	120.1	121.5	120.1	120.1	95.2	54.2	32.2	23.4	22.0
55°	87.9	87.9	86.4	89.3	90.8	87.9	71.7	39.5	24.9	19.0	17.6
57.5°	61.5	61.5	58.6	61.5	61.5	64.4	51.2	29.3	20.5	14.6	14.6
60°	41.0	41.0	41.0	42.5	43.9	43.9	35.1	20.5	16.1	11.7	11.7
62.5°	27.8	27.8	27.8	29.3	29.3	32.2	24.9	16.1	13.2	10.2	8.8
65°	19.0	19.0	19.0	19.0	20.5	20.5	16.1	11.7	10.2	8.8	7.3
67.5°	11.7	13.2	11.7	13.2	13.2	13.2	10.2	8.8	7.3	5.9	4.4
70°	8.8	8.8	8.8	8.8	8.8	8.8	7.3	7.3	5.9	4.4	2.9
72.5°	5.9	5.9	5.9	5.9	5.9	5.9	4.4	4.4	4.4	2.9	2.9
75°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.0
80°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.0	0.0
82.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	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°	587.2	587.2
2.5°	538.9	528.6
5°	456.9	468.6
7.5°	398.3	383.6
10°	333.9	325.1
12.5°	289.9	285.5
15°	240.1	229.9
17.5°	206.5	196.2
20°	172.8	165.5
22.5°	147.9	143.5
25°	127.4	121.5
27.5°	109.8	106.9
30°	95.2	95.2
32.5°	82.0	84.9
35°	73.2	74.7
37.5°	63.0	65.9
40°	58.6	61.5
42.5°	49.8	55.6
45°	42.5	46.9
47.5°	36.6	41.0
50°	30.7	35.1
52.5°	27.8	30.7
55°	23.4	24.9
57.5°	19.0	20.5
60°	14.6	16.1
62.5°	11.7	13.2
65°	8.8	8.8
67.5°	5.9	7.3
70°	2.9	4.4
72.5°	1.5	1.5
75°	1.5	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)