

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO

Report Number: P886533

Luminaire Tested: ML310LSFL95FS1E-TIR4D25AWW-TL3SWMW-1000LM-3000K

Issue Date: 7/8/2024

Test Information

Test Method: LM-79-2019
Report Number: P886533
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-22)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/8/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFL95FS1E-TIR4D25AWW-TL3SWMW-1000LM-3000K
Description: 3IN SQUARE ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE WHITE TRIM
Light Source: (1) HCL SELECTABLE LUMEN LED 95CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 779.4 lumens
Efficiency: N/A
Efficacy: 57.3 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 0.81 / 1.01
Luminous Opening: Rectangular (W 0.25' x L: 0.25' x H: 0')
CIE Type: Direct

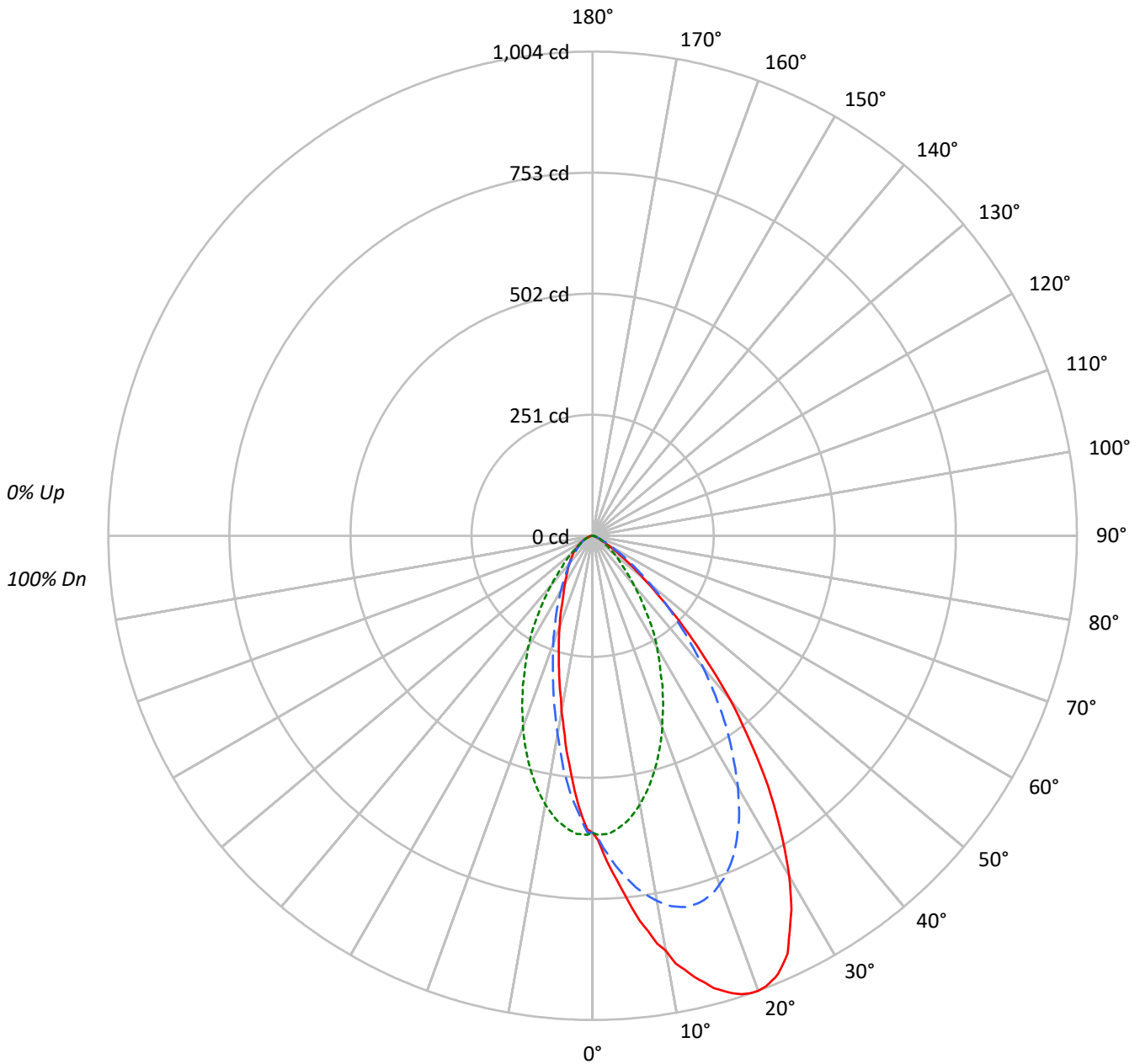
Input Watts (W): 13.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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								
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	91								
2	105	100	95	91	103	98	94	90	95	91	88	92	89	86	89	86	84	82								
3	99	91	85	81	97	90	84	80	87	83	79	85	81	77	82	79	76	74								
4	93	84	77	72	91	83	77	72	80	75	71	78	74	70	76	73	69	68								
5	87	77	70	65	85	76	70	65	74	69	64	73	68	64	71	67	63	62								
6	82	72	65	60	80	71	64	59	69	63	59	68	62	58	66	62	58	56								
7	77	66	59	55	76	66	59	54	64	58	54	63	58	54	62	57	53	52								
8	73	62	55	50	71	61	55	50	60	54	50	59	54	50	58	53	49	48								
9	69	58	51	46	67	57	51	46	56	50	46	55	50	46	54	49	46	44								
10	65	54	47	43	64	54	47	43	53	47	43	52	47	43	51	46	43	41								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	106003	106003	106003	106003	106003
5°	128692	121457	105267	92422	86388
10°	152740	134386	98912	73082	64845
15°	173181	141453	89096	56378	48319
20°	184045	141012	77452	43821	36563
25°	181703	133693	65103	33977	28086
30°	162075	119876	53157	26012	22830
35°	133358	101401	40767	20373	19195
40°	99663	80081	29834	16727	16727
45°	64422	59599	21311	13518	14662
50°	36814	41864	15888	11092	13102
55°	20057	26558	11020	9879	11290
60°	10712	15069	8749	8749	9713
65°	6153	8823	7294	7294	7661
70°	3777	5463	6143	6647	6143
75°	1863	3427	4991	5656	4392
80°	893	1884	2777	4661	4661
85°	0	1778	3754	5533	5533

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 30°
 Vertical Angle: 45°
 Luminance: 66930 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.2	7.5
10°-20°	156.6	20.1
20°-30°	202.6	26.0
30°-40°	177.1	22.7
40°-50°	107.6	13.8
50°-60°	48.6	6.2
60°-70°	19.5	2.5
70°-80°	7.2	0.9
80°-90°	1.8	0.2
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°	417.5	53.6
0°-40°	594.6	76.3
0°-60°	750.8	96.3
0°-90°	779.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	779.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	616	616	616	616	616	
5°	744	703	609	535	500	75
15°	971	793	500	316	271	274
25°	956	704	343	179	148	431
35°	634	482	194	97	91	392
45°	264	245	88	56	60	208
55°	67	88	37	33	38	65
65°	15	22	18	18	19	16
75°	3	5	8	8	7	4
85°	0	1	2	3	3	0
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	615.5	615.5	615.5	615.5	615.5	615.5	615.5	615.5	615.5	615.5	615.5
1°	630.6	629.6	627.7	625.9	626.8	625.9	623.0	622.1	622.1	620.2	619.3
2°	660.7	656.9	653.2	655.0	651.3	645.6	638.1	631.5	624.9	619.3	605.2
3°	688.9	685.2	685.2	680.4	671.0	661.6	651.3	639.0	628.7	619.3	595.7
4°	715.3	713.4	709.6	699.3	693.6	678.6	662.6	646.6	630.6	614.6	581.6
5°	744.4	744.4	736.0	726.6	711.5	693.6	672.9	650.3	629.6	608.9	567.5
6°	774.6	774.6	763.3	749.2	731.3	705.9	681.4	656.9	627.7	602.3	551.5
7°	804.7	800.0	789.6	771.7	749.2	720.0	688.0	657.9	624.0	595.7	535.5
8°	828.2	823.5	810.3	791.5	762.3	729.4	694.6	657.9	620.2	586.3	518.6
9°	856.4	849.9	836.7	810.3	777.4	739.7	698.3	656.0	614.6	576.0	500.7
10°	873.4	873.4	857.4	829.1	790.6	746.3	701.2	655.0	608.9	565.6	482.8
11°	903.5	896.0	872.4	845.1	802.8	753.9	702.1	650.3	600.4	553.4	464.9
12°	920.4	912.9	892.2	858.3	812.2	758.6	701.2	644.7	590.1	541.2	448.0
13°	939.3	932.7	908.2	868.7	819.7	759.5	699.3	639.0	580.7	528.0	429.2
14°	954.3	948.7	922.3	879.0	825.4	761.4	695.5	631.5	568.5	513.9	408.5
15°	971.3	960.9	931.7	885.6	826.3	760.4	689.9	622.1	558.1	499.7	394.3
16°	981.6	972.2	940.2	890.3	827.3	758.6	684.2	611.7	544.9	485.6	373.6
17°	992.0	982.6	946.8	894.1	826.3	752.9	676.7	601.4	534.6	469.6	355.8
18°	999.5	989.1	952.4	894.1	823.5	746.3	665.4	589.2	518.6	454.6	339.8
19°	1003.3	991.0	952.4	893.1	819.7	737.9	656.0	576.9	503.5	438.6	321.9
20°	1004.2	991.0	953.4	889.4	811.3	727.5	642.8	563.7	487.5	422.6	304.9
21°	1001.4	988.2	947.7	883.7	804.7	716.2	630.6	546.8	471.5	403.8	288.9
22.5°	991.0	976.9	934.6	868.7	785.9	698.3	608.9	523.3	448.9	382.1	266.3
23°	985.4	973.1	929.8	863.0	781.1	689.9	599.5	516.7	437.6	373.6	259.8
24°	971.3	960.0	916.7	849.9	766.1	676.7	582.6	500.7	423.5	356.7	244.7
25°	956.2	938.3	899.7	832.9	749.2	657.9	567.5	482.8	407.5	342.6	230.6
26°	928.9	915.7	878.1	812.2	732.2	639.0	549.6	464.0	390.6	323.8	219.3
27°	902.6	893.1	857.4	791.5	714.3	621.2	531.7	448.0	369.9	308.7	204.2
28°	878.1	867.7	828.2	767.0	691.7	602.3	509.2	430.1	355.8	294.6	192.9
29°	846.1	838.6	801.9	747.3	668.2	580.7	491.3	411.3	339.8	279.5	181.6
30°	815.0	806.6	770.8	718.1	646.6	559.0	472.5	393.4	323.8	267.3	172.2
32.5°	725.6	722.8	690.8	645.6	580.7	501.6	422.6	347.3	283.3	232.5	148.7
35°	634.3	631.5	602.3	568.5	517.6	447.0	370.8	302.1	241.9	193.9	125.2
37.5°	534.6	531.7	517.6	487.5	449.9	385.9	320.0	258.8	201.4	162.8	105.4
40°	443.3	440.5	433.9	412.2	383.0	329.4	272.0	212.7	166.6	132.7	86.6
42.5°	346.3	350.1	348.2	340.7	321.9	274.8	227.8	176.9	137.4	107.3	71.5
45°	264.5	266.3	271.0	274.8	261.6	227.8	186.3	140.2	107.3	87.5	59.3
47.5°	192.0	196.7	207.1	214.6	210.8	185.4	147.8	112.0	87.5	72.5	50.8
50°	137.4	140.2	150.6	166.6	166.6	145.9	114.8	85.6	70.6	59.3	45.2
52.5°	98.8	100.7	110.1	122.3	126.1	111.1	88.5	67.8	55.5	46.1	37.6
55°	66.8	69.6	79.1	92.2	92.2	84.7	64.9	50.8	42.4	36.7	31.1
57.5°	45.2	48.0	54.6	65.9	65.9	60.2	48.9	37.6	32.9	29.2	26.4
60°	31.1	32.0	39.5	45.2	46.1	41.4	34.8	29.2	26.4	25.4	23.5



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
67.5°	10.4	11.3	12.2	14.1	15.1	15.1	15.1	16.0	16.0	15.1	16.0
70°	7.5	7.5	8.5	9.4	10.4	11.3	11.3	13.2	12.2	12.2	13.2
72.5°	4.7	5.6	5.6	6.6	7.5	7.5	9.4	9.4	9.4	9.4	10.4
75°	2.8	3.8	3.8	3.8	4.7	5.6	6.6	6.6	6.6	7.5	8.5
77.5°	1.9	1.9	2.8	2.8	2.8	3.8	4.7	4.7	4.7	4.7	5.6
80°	0.9	0.9	0.9	1.9	1.9	1.9	2.8	2.8	2.8	2.8	3.8
82.5°	0.9	0.9	0.9	0.9	0.9	1.9	1.9	1.9	2.8	2.8	2.8
85°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	1.9	1.9	1.9	1.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
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):

	135°	157.5°	180°
0°	615.5	615.5	615.5
1°	615.5	614.6	608.9
2°	594.8	586.3	586.3
3°	574.1	562.8	560.0
4°	554.3	533.6	530.8
5°	534.6	508.2	499.7
6°	512.0	481.9	470.6
7°	490.3	455.5	447.0
8°	464.9	431.0	416.9
9°	439.5	405.6	391.5
10°	417.9	381.2	370.8
11°	396.2	358.6	344.5
12°	373.6	336.9	325.6
13°	355.8	316.2	305.9
14°	335.0	300.2	288.0
15°	316.2	280.5	271.0
16°	300.2	265.4	255.0
17°	281.4	250.3	240.0
18°	267.3	236.2	225.9
19°	252.2	222.1	213.6
20°	239.1	210.8	199.5
21°	225.9	196.7	189.2
22.5°	206.1	180.7	172.2
23°	199.5	173.2	166.6
24°	189.2	164.7	156.2
25°	178.8	154.3	147.8
26°	168.5	144.9	139.3
27°	159.1	137.4	132.7
28°	147.8	128.9	126.1
29°	139.3	122.3	120.5
30°	130.8	116.7	114.8
32.5°	112.9	102.6	101.6
35°	96.9	90.3	91.3
37.5°	84.7	80.9	82.8
40°	74.4	71.5	74.4
42.5°	64.0	64.0	67.8
45°	55.5	58.4	60.2
47.5°	48.0	52.7	54.6
50°	41.4	48.0	48.9
52.5°	36.7	43.3	42.4
55°	32.9	37.6	37.6
57.5°	29.2	32.9	32.0
60°	25.4	28.2	28.2



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
67.5°	15.1	16.9	15.1
70°	13.2	13.2	12.2
72.5°	10.4	10.4	9.4
75°	8.5	7.5	6.6
77.5°	6.6	5.6	5.6
80°	4.7	4.7	4.7
82.5°	3.8	3.8	3.8
85°	2.8	2.8	2.8
87.5°	1.9	1.9	1.9
90°	0.0	0.0	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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Scaled Data Report





— 0°-180° - - 45°-225° - - - 90°-270°

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Scaled Data Report





62.5°	20.7	22.6	27.3	32.0	32.9	29.2	25.4	23.5	21.6	21.6	20.7
65°	15.1	16.0	18.8	21.6	22.6	20.7	18.8	18.8	18.8	17.9	17.9

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62.5°	21.6	23.5	23.5
65°	17.9	19.8	18.8

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Scaled Data Report



(END OF REPORT)