

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: P886772

Luminaire Tested: ML310LSFLD2W1E-TIR4D25AWW-TL3RWMB-600LM-2700K

Issue Date: 7/5/2024

Test Information

Test Method: LM-79-2019
Report Number: P886772
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2402-314-12)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 7/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO
Catalog Number: ML310LSFLD2W1E-TIR4D25AWW-TL3RWMB-600LM-2700K
Description: 3IN ROUND ML FLEX, SELECTABLE CCT, WITH WW TIR, MATTE BLACK TRIM
Light Source: (1) D2W LED 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 472.0 lumens
Efficiency: N/A
Efficacy: 49.7 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 0.8 / 0.98
Luminous Opening: Circular (Dia: 0.25' x H: 0')
CIE Type: Direct

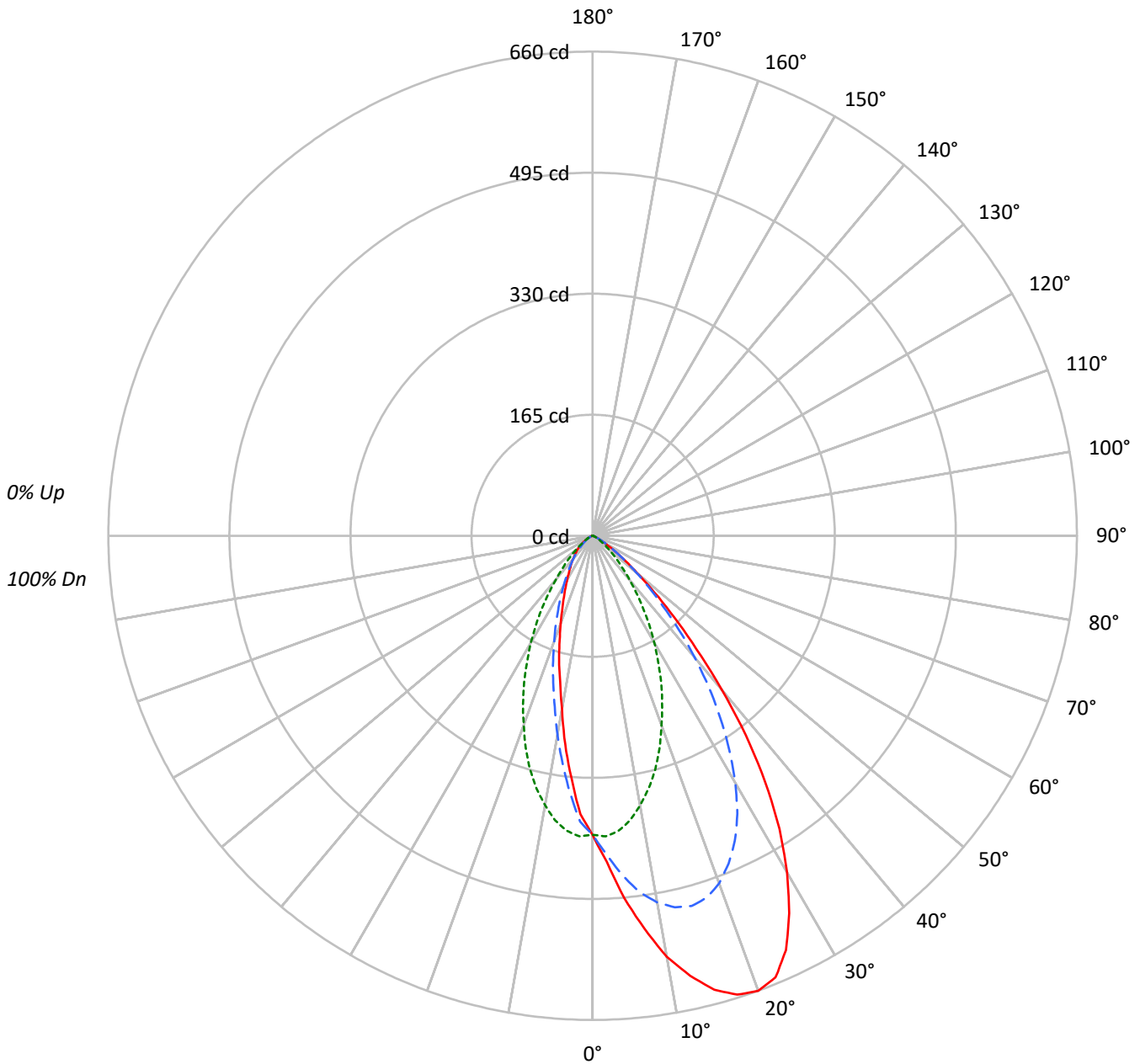
Input Watts (W): 9.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	75	82	78	74	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	77	71	67	75	70	67	73	69	66	64					64			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51					51			
9	71	60	53	49	69	59	53	49	58	53	49	58	52	49	57	52	48	47					47			
10	67	56	50	46	66	56	50	46	55	49	45	54	49	45	53	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	89379	89379	89379	89379	89379
5°	109135	102201	88884	77526	72947
10°	129746	112991	83053	61299	53439
15°	145449	118559	74802	47060	40046
20°	154060	117680	64102	35586	29543
25°	150759	110970	53495	26832	22405
30°	134147	98420	42589	20104	17547
35°	109781	81204	31882	15178	14161
40°	78261	61945	22356	11708	11908
45°	48656	42004	15226	8590	9955
50°	26848	25995	9893	6243	7949
55°	14680	14814	5773	4588	6002
60°	6885	7324	3859	3333	4122
65°	3269	3269	2594	1972	2283
70°	1218	1410	1603	833	833
75°	508	508	508	0	0
80°	0	0	0	0	0
85°	0	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 10°
 Vertical Angle: 45°
 Luminance: 49028 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.5	8.2
10°-20°	102.8	21.8
20°-30°	131.0	27.8
30°-40°	110.7	23.5
40°-50°	60.6	12.8
50°-60°	22.0	4.7
60°-70°	5.7	1.2
70°-80°	0.7	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°	272.3	57.7
0°-40°	383.0	81.1
0°-60°	465.6	98.6
0°-90°	472.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	472.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	408	408	408	408	408	
5°	496	464	404	352	331	50
15°	641	522	330	207	176	181
25°	623	459	221	111	93	282
35°	410	303	119	57	53	253
45°	157	135	49	28	32	125
55°	38	39	15	12	16	37
65°	6	6	5	4	4	7
75°	1	1	1	0	0	1
85°	0	0	0	0	0	0
90°	0	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°	407.6	407.6	407.6	407.6	407.6	407.6	407.6	407.6	407.6	407.6	407.6
2.5°	444.8	443.5	442.9	442.3	437.2	432.2	425.9	420.8	415.8	410.1	398.2
5°	495.8	495.2	488.2	481.9	470.6	458.0	445.4	430.9	416.4	403.8	376.1
7.5°	539.9	538.6	529.2	517.2	500.2	479.4	458.0	434.1	411.4	391.2	347.8
10°	582.7	578.3	565.1	545.6	521.6	493.3	463.0	431.5	400.0	373.0	320.0
12.5°	614.2	609.8	595.3	568.9	536.8	500.8	461.8	423.4	386.2	352.8	288.5
15°	640.7	632.5	614.2	582.7	544.3	500.2	454.2	409.5	366.7	329.5	257.0
17.5°	655.8	648.3	624.3	587.8	542.4	492.0	441.0	390.6	344.0	303.0	226.2
20°	660.2	650.8	625.0	583.4	531.7	476.9	422.1	367.3	318.8	274.7	199.1
22.5°	651.4	640.7	611.7	569.5	513.4	454.2	397.5	342.1	290.4	247.6	171.4
25°	623.1	615.5	585.3	542.4	489.5	427.8	368.5	313.1	263.3	221.1	146.8
27.5°	580.2	573.3	546.8	506.5	455.5	398.8	337.7	282.2	233.7	192.8	126.0
30°	529.8	522.3	500.8	465.6	417.7	359.7	304.3	251.4	205.4	168.2	107.1
32.5°	473.8	466.2	444.1	415.2	373.0	321.3	270.9	219.9	177.0	143.0	90.7
35°	410.1	404.5	388.7	359.7	325.1	281.6	233.7	188.4	148.7	119.1	75.6
37.5°	342.7	336.4	327.0	308.1	279.1	240.7	199.1	157.5	123.5	97.0	60.5
40°	273.4	270.9	265.9	251.4	232.5	200.3	166.9	130.4	100.2	78.1	49.1
42.5°	209.2	208.5	207.9	199.1	185.8	163.2	133.6	103.3	80.6	61.1	39.1
45°	156.9	158.1	156.9	153.7	143.0	127.9	105.2	81.9	62.4	49.1	29.6
47.5°	114.0	115.3	115.9	117.2	111.5	97.0	78.1	62.4	47.2	37.8	23.9
50°	78.7	81.9	83.8	85.0	80.6	71.8	58.0	44.7	34.6	29.0	19.5
52.5°	56.7	57.3	60.5	61.7	59.2	50.4	40.3	30.2	25.8	21.4	15.1
55°	38.4	38.4	42.8	44.7	42.2	35.3	27.1	21.4	18.3	15.1	11.3
57.5°	23.9	25.2	28.3	30.2	28.3	23.3	18.3	15.1	13.2	12.0	8.2
60°	15.7	17.0	18.3	20.2	18.9	14.5	12.0	10.7	10.1	8.8	6.3
62.5°	10.1	10.7	12.0	13.2	11.3	8.8	8.2	7.6	6.9	6.9	5.0
65°	6.3	6.3	7.6	8.2	6.9	5.7	5.7	5.7	5.7	5.0	3.8
67.5°	3.8	3.8	4.4	4.4	3.8	3.8	3.8	3.8	3.8	3.8	2.5
70°	1.9	1.9	2.5	2.5	1.9	2.5	2.5	2.5	2.5	2.5	1.9
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.9	1.3	1.3
75°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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):

	135°	157.5°	180°
0°	407.6	407.6	407.6
2.5°	390.0	383.7	379.9
5°	352.2	337.0	331.4
7.5°	313.1	293.6	286.6
10°	275.3	249.5	240.0
12.5°	238.8	214.2	204.1
15°	207.3	183.3	176.4
17.5°	178.9	156.9	149.3
20°	152.5	133.6	126.6
22.5°	131.0	114.0	107.7
25°	110.9	95.8	92.6
27.5°	93.9	81.9	80.0
30°	79.4	69.9	69.3
32.5°	66.8	61.1	60.5
35°	56.7	52.3	52.9
37.5°	48.5	46.0	47.2
40°	40.9	39.7	41.6
42.5°	34.0	34.6	36.5
45°	27.7	30.2	32.1
47.5°	22.7	26.5	27.7
50°	18.3	22.7	23.3
52.5°	14.5	18.9	18.9
55°	12.0	15.1	15.7
57.5°	9.4	12.0	12.0
60°	7.6	9.4	9.4
62.5°	5.7	6.3	6.9
65°	3.8	4.4	4.4
67.5°	2.5	3.1	3.1
70°	1.3	1.9	1.3
72.5°	0.6	0.6	0.6
75°	0.0	0.0	0.0
77.5°	0.0	0.0	0.0
80°	0.0	0.0	0.0
82.5°	0.0	0.0	0.0
85°	0.0	0.0	0.0
87.5°	0.0	0.0	0.0
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



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

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270°

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Scaled Data Report



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