

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: P855599

Luminaire Tested: **HLSMS9129FS1EWH-3000K**

Issue Date: 7/16/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P855599  
 Test Lab:  
 Issue Date: 7/16/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: HLSMS9129FS1EWH-3000K  
 Description: 9IN 1200LM, 90CRI, DIMMING TO 10%, DAMP LOCATION, WITH MOTION SENSOR  
 Light Source: SELECTABLE CCT 90CRI / 3000K CCT  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: 1294.2 (1 lamp)  
 Luminaire Lumens: 1275.0 lumens  
 Efficiency: 98.5%  
 Efficacy: 79.2 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Circular (Dia: 0.75' x H: 0')  
 CIE Type: Direct

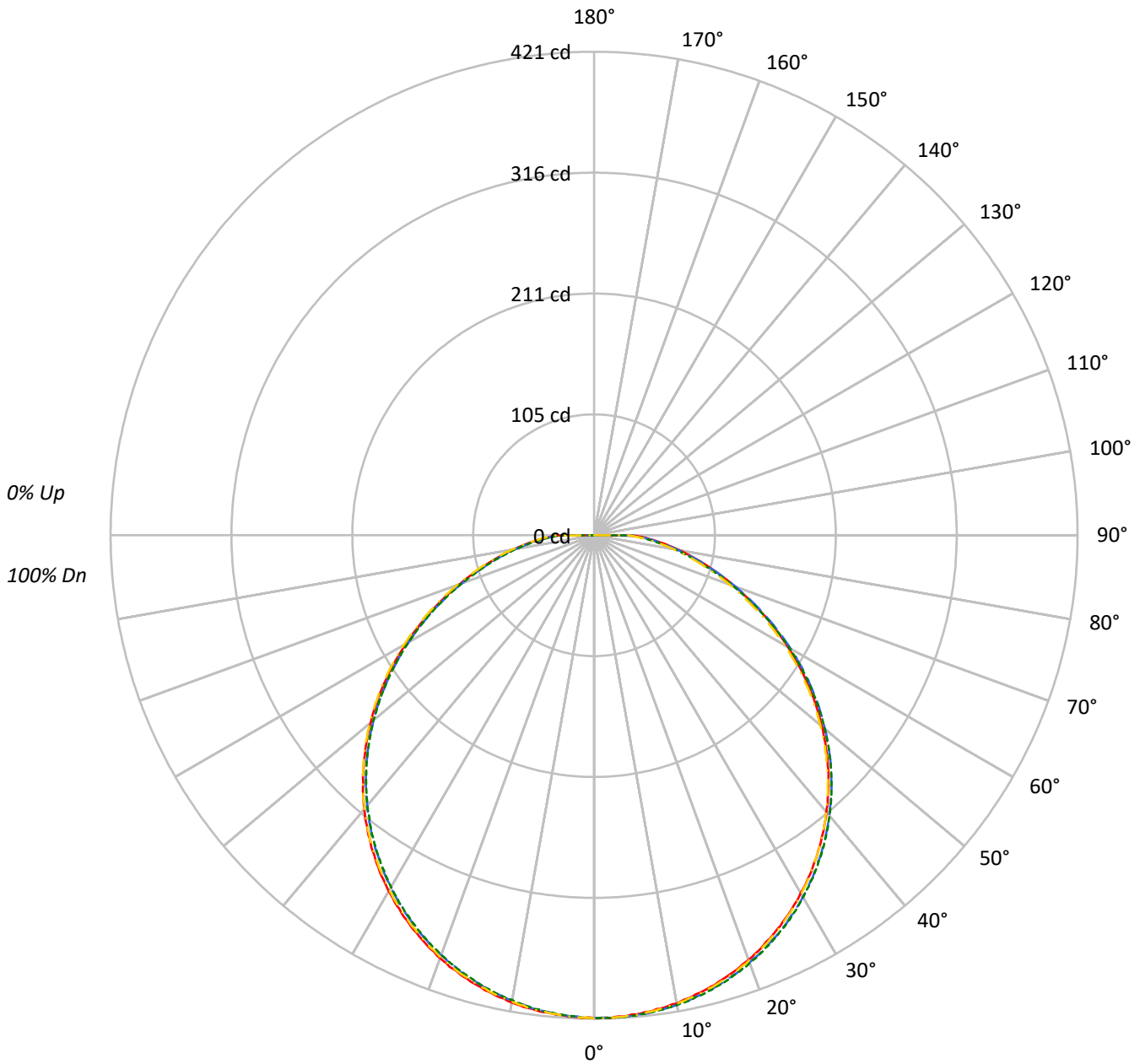
Input Watts (W): 16.1  
 Input Voltage (V): NR  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 25 FT



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



— 0°-180°    - - 45°-225°    - - - 90°-270°    - · - 135°-315°

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	0	
RCR																						
0	117	117	117	117	115	115	115	115	109	109	109	105	105	105	101	101	101	99				99
1	106	101	96	92	103	99	94	90	94	91	88	90	87	85	87	84	82	80				80
2	96	87	80	74	93	85	79	73	82	76	71	79	74	70	76	72	68	66				66
3	87	76	68	61	85	75	67	61	72	65	60	69	63	58	66	62	57	55				55
4	80	68	59	52	78	66	58	51	64	56	51	61	55	50	59	54	49	47				47
5	73	60	51	44	71	59	51	44	57	49	44	55	48	43	53	47	43	40				40
6	68	54	45	39	66	53	45	38	51	44	38	50	43	38	48	42	37	35				35
7	63	49	40	34	61	48	40	34	47	39	34	45	38	33	44	38	33	31				31
8	58	45	36	30	57	44	36	30	43	35	30	41	35	30	40	34	30	28				28
9	55	41	33	27	53	40	33	27	39	32	27	38	32	27	37	31	27	25				25
10	51	38	30	25	50	37	30	25	36	29	24	35	29	24	35	29	24	22				22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	10245	10245	10245	10245
5°	10245	10267	10231	10204
10°	10245	10280	10223	10166
15°	10226	10279	10193	10127
20°	10203	10273	10166	10081
25°	10165	10259	10122	10022
30°	10123	10238	10066	9951
35°	10080	10202	9991	9863
40°	10012	10146	9898	9764
45°	9934	10065	9775	9641
50°	9825	9942	9624	9499
55°	9685	9783	9447	9315
60°	9517	9570	9234	9093
65°	9351	9340	9011	8884
70°	9304	9161	8883	8741
75°	9555	9235	9056	8849
80°	10635	10074	10032	9653
85°	14900	13726	13922	13167

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	39.8	3.1	3.1
10°-20°	114.2	9.0	8.8
20°-30°	173.9	13.6	13.4
30°-40°	211.0	16.5	16.3
40°-50°	220.4	17.3	17.0
50°-60°	200.9	15.8	15.5
60°-70°	157.2	12.3	12.1
70°-80°	103.5	8.1	8.0
80°-90°	54.0	4.2	4.2
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	327.9	25.7	25.3
0°-40°	538.9	42.3	41.6
0°-60°	960.3	75.3	74.2
0°-90°	1275.0	100.0	98.5
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	1275.0	100.0	98.5

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	420	420	420	420	420	
5°	419	420	418	417	419	40
15°	405	408	404	402	405	114
25°	378	382	376	373	378	174
35°	339	343	336	332	339	212
45°	288	292	284	280	288	222
55°	228	230	222	219	228	204
65°	162	162	156	154	162	161
75°	102	98	96	94	102	108
85°	53	49	50	47	53	58
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	420.5	420.5	420.5	420.5	420.5	420.5	420.5	420.5	420.5	420.5	420.5
0.5°	420.7	420.8	420.4	420.9	420.4	420.2	420.3	420.8	419.9	420.6	420.1
1°	420.2	420.9	420.1	420.7	420.5	420.7	420.7	420.5	420.3	420.6	420.1
1.5°	420.2	420.5	420.7	420.7	420.3	420.0	420.3	420.3	420.4	420.1	420.3
2°	420.6	420.4	420.5	421.0	420.6	420.5	420.3	420.8	419.8	420.2	419.2
2.5°	419.9	420.7	420.1	420.7	420.6	420.2	420.3	420.2	419.7	420.0	419.6
3°	419.6	420.4	420.4	420.4	419.9	420.0	420.1	419.8	419.8	419.7	419.4
3.5°	419.9	420.0	420.2	420.8	420.6	420.1	420.1	420.2	419.1	419.3	418.7
4°	419.6	420.0	419.7	420.7	419.8	419.9	419.4	419.7	418.8	419.1	418.3
4.5°	418.7	420.1	420.0	420.1	419.8	419.8	419.2	418.9	418.9	418.8	418.5
5°	418.9	419.1	419.7	419.8	419.8	419.8	419.3	419.0	418.3	418.2	417.4
5.5°	418.5	418.7	419.0	420.1	419.1	418.8	418.6	418.5	417.6	417.7	417.2
6°	417.8	418.7	419.2	419.4	419.1	419.0	418.5	418.0	417.7	417.5	417.0
6.5°	417.6	418.5	418.8	418.9	418.6	418.7	417.8	418.0	417.3	417.3	416.2
7°	417.4	417.7	417.9	418.9	418.4	417.9	417.5	417.2	416.6	416.3	415.5
7.5°	416.2	417.5	417.8	418.7	417.9	417.8	417.1	416.4	415.9	415.9	415.5
8°	416.2	417.1	417.6	417.6	417.3	417.3	416.5	416.6	415.6	415.6	414.5
8.5°	415.8	416.2	416.9	417.2	417.3	416.4	416.2	415.8	415.2	414.9	413.5
9°	414.9	415.5	416.1	417.1	416.3	416.6	415.2	414.9	414.3	413.6	413.2
9.5°	414.0	415.3	416.0	416.3	416.1	415.6	415.0	414.6	413.7	413.2	412.7
10°	414.1	414.8	415.2	415.7	415.5	415.3	414.4	414.0	413.2	412.9	411.3
10.5°	412.9	414.1	414.3	415.4	414.6	414.6	413.5	412.9	412.4	411.9	410.8
11°	412.0	413.0	414.0	414.6	414.4	413.7	413.0	412.5	411.0	410.7	410.1
11.5°	411.5	412.7	413.6	413.6	413.5	413.4	411.8	411.7	410.7	410.3	408.7
12°	410.7	411.8	412.3	413.2	413.0	412.4	411.3	410.7	410.1	409.3	408.1
12.5°	409.3	410.8	411.4	412.7	411.6	411.7	410.4	409.8	408.8	408.3	407.6
13°	408.9	409.9	411.1	411.5	411.3	410.9	409.5	409.3	407.9	407.3	406.1
13.5°	408.2	409.4	410.1	410.7	410.6	409.9	409.0	407.8	407.4	406.7	405.2
14°	407.1	408.2	408.9	410.1	409.2	409.4	407.4	407.1	405.8	405.6	404.5
14.5°	405.9	407.1	408.4	409.1	409.0	408.4	407.1	406.2	405.0	404.3	403.1
15°	405.4	406.6	407.5	408.1	407.5	407.5	406.0	405.2	404.1	403.2	401.9
15.5°	404.1	405.6	406.1	407.0	406.6	406.7	404.9	403.9	403.3	402.5	401.2
16°	402.7	404.0	405.4	406.3	405.9	405.2	403.8	403.3	401.5	401.1	399.8
16.5°	401.9	403.0	404.7	405.1	404.8	404.4	402.4	401.5	401.0	399.8	398.5
17°	400.8	402.5	403.0	403.9	403.8	403.5	401.7	400.7	399.7	398.7	397.6
17.5°	399.5	401.0	401.8	403.0	402.4	402.0	400.3	399.7	398.2	397.6	396.1
18°	398.6	399.6	401.1	401.9	401.3	401.3	399.3	398.5	397.0	396.1	394.3
18.5°	397.5	398.8	399.7	400.4	400.4	399.8	398.1	396.7	396.3	394.9	393.6
19°	395.7	397.3	398.5	399.3	398.8	398.7	396.5	396.1	394.4	393.8	392.2
19.5°	394.5	395.7	397.5	398.5	398.0	397.6	395.7	394.3	393.2	392.0	390.4
20°	393.5	394.9	396.1	397.0	396.2	396.0	394.0	393.0	392.1	390.5	389.2
20.5°	392.2	393.5	394.4	395.5	395.1	395.0	392.9	391.7	390.7	389.4	387.8
21°	390.6	391.7	393.4	394.3	394.1	393.5	391.4	390.5	388.5	387.8	385.9
21.5°	389.4	390.8	392.1	393.0	392.4	391.9	389.9	388.4	387.5	386.1	384.9
22°	387.9	389.3	390.4	391.2	391.3	391.1	388.5	387.4	386.2	384.9	383.3

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	386.2	387.6	389.0	390.3	389.3	389.1	386.9	386.1	384.3	383.4	381.2
23°	384.3	386.1	387.8	388.7	388.1	387.9	385.7	384.1	382.8	381.3	380.0
23.5°	383.2	385.0	386.0	386.8	386.9	386.2	383.8	382.5	381.3	380.1	378.5
24°	381.7	383.1	384.5	385.6	385.0	384.6	382.2	381.3	379.4	378.6	376.3
24.5°	379.8	381.3	383.2	384.4	383.8	383.4	380.9	379.2	377.9	376.5	374.8
25°	378.1	380.0	381.4	382.2	381.6	381.4	378.8	377.8	376.5	374.7	373.4
25.5°	376.9	378.6	379.6	380.6	380.3	379.9	377.5	376.3	374.4	373.5	371.2
26°	374.7	376.4	378.4	379.3	378.9	378.4	375.5	374.0	372.6	371.2	369.5
26.5°	372.9	375.0	376.6	377.5	376.8	376.1	373.9	372.4	371.2	369.4	368.0
27°	371.4	373.3	374.4	375.6	375.4	375.0	371.9	371.0	369.3	367.9	365.8
27.5°	369.8	371.2	372.9	374.2	373.1	373.0	370.4	368.5	366.9	366.1	363.7
28°	367.6	369.4	371.2	372.3	371.6	371.1	368.3	366.7	365.5	363.8	362.4
28.5°	365.7	368.0	369.3	369.9	369.9	369.5	366.3	365.1	363.7	362.1	360.2
29°	364.2	365.7	367.6	368.4	367.9	367.3	364.8	362.8	361.5	360.4	357.9
29.5°	362.2	363.7	365.7	366.7	365.9	365.6	362.6	361.0	359.4	358.0	356.1
30°	359.8	362.1	363.5	364.6	363.9	363.4	360.8	359.3	357.8	355.7	354.3
30.5°	358.1	360.2	361.8	362.6	362.1	361.8	358.6	356.8	355.6	354.1	351.6
31°	356.3	357.8	359.7	360.9	359.9	359.5	356.5	354.8	353.4	351.9	349.9
31.5°	354.0	356.2	357.6	358.5	358.2	357.4	354.5	353.2	351.3	349.7	347.9
32°	351.7	354.1	355.5	356.4	355.8	355.7	352.3	350.8	349.5	347.7	345.7
32.5°	350.1	351.6	353.9	354.6	354.0	353.3	350.6	348.2	347.2	345.7	343.2
33°	347.9	349.5	351.3	352.6	351.9	351.3	347.8	346.6	344.8	343.2	341.6
33.5°	345.4	347.7	349.4	350.0	349.6	348.9	346.1	344.4	342.8	340.8	339.0
34°	343.3	345.3	347.2	348.1	347.7	346.9	343.7	341.7	340.4	338.8	336.5
34.5°	341.4	342.9	344.8	346.1	345.0	344.8	341.2	339.7	338.0	336.7	334.4
35°	338.9	341.2	342.6	343.5	343.0	342.3	339.2	337.7	335.9	334.3	332.4
35.5°	336.4	338.6	340.7	341.1	340.9	340.4	336.8	334.8	333.8	331.8	329.6
36°	334.6	336.1	338.0	339.1	338.5	337.7	334.4	332.7	331.1	329.5	327.4
36.5°	332.1	334.1	335.7	336.7	336.3	335.3	332.2	330.6	328.6	327.1	325.2
37°	329.4	331.8	333.5	334.2	333.5	333.4	329.4	327.8	326.6	324.5	322.5
37.5°	327.3	329.2	331.2	332.0	331.5	330.5	327.4	325.3	324.0	322.0	319.8
38°	325.0	327.1	328.5	329.7	329.0	328.4	324.5	323.3	321.2	320.0	317.7
38.5°	322.1	324.5	326.4	327.0	326.5	325.6	322.3	320.4	319.0	317.2	315.2
39°	320.0	321.7	323.6	324.4	324.2	323.3	319.8	317.7	316.7	314.4	312.4
39.5°	317.7	319.5	321.1	322.3	321.3	320.8	316.9	315.6	313.7	312.1	310.0
40°	314.8	317.2	318.8	319.7	319.0	318.3	314.6	312.9	311.2	309.6	307.5
40.5°	312.2	314.2	316.1	317.1	316.3	315.8	311.8	310.0	308.9	306.6	304.6
41°	310.0	311.8	313.3	314.5	313.8	312.8	309.2	307.6	305.9	304.1	302.1
41.5°	307.1	309.6	311.2	311.8	311.2	310.5	306.7	305.1	303.1	301.7	299.6
42°	304.5	306.5	308.3	308.9	308.4	307.8	303.9	301.9	300.6	298.7	296.8
42.5°	302.1	303.8	305.4	306.4	305.9	304.9	301.4	299.4	297.9	296.1	294.0
43°	299.4	301.5	303.2	304.0	303.0	302.5	298.4	296.8	294.9	293.6	291.4
43.5°	296.2	298.6	300.3	301.1	300.3	299.4	295.7	293.8	292.3	290.4	288.6
44°	293.8	295.7	297.3	298.2	297.7	297.0	293.0	290.9	289.6	287.7	285.5
44.5°	291.1	293.2	294.9	295.6	294.7	294.0	289.9	288.5	286.5	285.1	283.0

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	288.3	290.5	292.0	292.5	292.1	291.3	287.3	285.1	283.7	282.2	280.5
45.5°	285.2	287.4	289.1	289.8	289.0	288.4	284.2	282.5	281.2	279.1	277.1
46°	282.7	284.3	286.4	287.2	286.3	285.2	281.2	279.7	277.9	276.4	274.3
46.5°	279.7	282.0	283.6	284.0	283.2	282.8	278.7	276.5	275.0	273.5	271.7
47°	276.7	279.0	280.4	281.2	280.3	279.6	275.3	273.7	272.3	270.3	268.5
47.5°	273.8	276.0	277.5	278.5	277.4	276.7	272.6	270.9	269.2	267.5	265.4
48°	271.2	273.0	274.7	275.3	274.6	273.7	269.3	267.5	266.0	264.8	262.7
48.5°	267.8	270.3	271.6	272.2	271.4	270.5	266.5	264.8	263.2	261.5	259.8
49°	265.0	267.0	268.5	269.3	268.4	267.8	263.5	261.8	260.3	258.5	256.6
49.5°	262.2	264.1	265.7	266.4	265.2	264.9	260.2	258.6	257.3	255.5	253.6
50°	259.2	261.1	262.6	263.2	262.3	261.7	257.3	255.5	253.9	252.6	250.7
50.5°	255.8	258.3	259.4	260.1	259.0	258.3	253.9	252.6	251.1	249.3	247.4
51°	252.9	254.8	256.7	257.0	256.0	255.4	250.9	249.3	248.0	246.2	244.4
51.5°	250.0	252.0	253.3	253.7	252.7	252.5	248.0	246.2	244.8	243.2	241.5
52°	246.9	249.0	250.1	250.7	249.6	249.0	244.6	243.2	241.4	240.0	238.3
52.5°	243.6	245.8	247.1	247.6	246.5	246.0	241.6	239.8	238.4	236.8	234.9
53°	240.6	242.3	244.1	244.3	243.3	242.6	238.0	236.7	235.4	233.7	231.9
53.5°	237.6	239.4	240.5	241.0	240.1	239.5	235.0	233.5	232.1	230.6	228.8
54°	234.1	236.3	237.5	238.0	236.7	236.3	231.9	230.1	228.7	227.3	225.3
54.5°	230.9	233.0	234.4	234.6	233.4	233.0	228.4	227.0	225.7	223.8	222.4
55°	228.0	229.6	230.9	231.2	230.3	229.6	225.2	223.8	222.4	221.1	219.3
55.5°	224.8	226.7	227.7	228.2	226.8	226.0	221.8	220.6	218.9	217.7	215.9
56°	221.3	223.3	224.6	224.7	223.6	223.2	218.5	217.1	215.7	214.3	212.7
56.5°	218.3	220.0	221.1	221.4	220.2	219.6	215.4	213.9	212.8	211.0	209.6
57°	214.9	216.8	217.8	218.2	216.7	216.3	211.9	210.3	209.1	207.9	206.1
57.5°	211.5	213.6	214.6	214.8	213.5	213.0	208.6	207.3	205.9	204.5	202.9
58°	208.3	209.9	211.1	211.1	210.0	209.4	205.2	204.0	202.7	201.2	199.8
58.5°	205.3	207.0	207.7	208.0	206.6	206.4	201.7	200.6	199.4	198.0	196.4
59°	201.9	203.7	204.6	204.7	203.2	203.0	198.7	197.2	195.8	194.8	193.1
59.5°	198.5	200.3	201.1	201.2	199.7	199.6	194.9	194.0	192.6	191.2	190.0
60°	195.3	196.9	197.7	197.8	196.4	196.0	191.8	190.5	189.5	188.0	186.4
60.5°	192.1	193.7	194.5	194.5	192.9	192.6	188.2	187.2	186.0	184.8	183.3
61°	188.6	190.2	190.9	190.8	189.6	189.4	185.0	183.9	182.6	181.4	180.1
61.5°	185.3	186.8	187.5	187.5	186.0	185.7	181.5	180.5	179.4	178.0	176.7
62°	182.2	183.7	184.3	184.2	182.6	182.4	178.1	177.1	176.1	175.0	173.4
62.5°	178.9	180.3	180.8	180.5	179.3	178.8	174.8	173.9	172.6	171.5	170.3
63°	175.4	176.8	177.4	177.2	175.9	175.4	171.3	170.4	169.4	168.2	166.8
63.5°	172.2	173.6	174.1	173.9	172.2	172.2	167.9	167.2	166.1	165.0	163.6
64°	169.0	170.4	170.6	170.3	168.9	168.7	164.7	163.8	162.8	161.8	160.5
64.5°	165.6	166.8	167.3	166.8	165.3	165.3	161.2	160.5	159.4	158.4	157.1
65°	162.2	163.5	164.0	163.6	162.0	161.8	157.9	157.2	156.3	155.2	154.0
65.5°	159.1	160.6	160.6	160.2	158.4	158.6	154.6	154.0	153.0	151.9	150.8
66°	155.9	157.1	157.2	156.7	155.2	155.3	151.2	150.4	149.7	148.8	147.4
66.5°	152.7	153.8	154.1	153.5	151.7	151.8	148.0	147.4	146.7	145.6	144.1
67°	149.5	150.4	150.5	150.0	148.3	148.5	144.7	144.2	143.5	142.4	141.3



TEST NUMBER: P855599  
 CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	146.4	147.4	147.3	146.5	145.2	145.2	141.5	140.9	140.2	139.3	138.1
68°	142.9	144.0	144.0	143.4	141.7	141.8	138.2	137.8	137.0	136.0	134.7
68.5°	139.9	141.0	140.8	140.1	138.3	138.6	135.0	134.6	134.0	132.8	131.7
69°	136.8	137.8	137.6	136.6	135.2	135.2	131.9	131.4	130.9	129.8	128.6
69.5°	133.8	134.5	134.4	133.6	131.8	131.9	128.5	128.3	127.7	126.8	125.5
70°	130.6	131.4	131.1	130.3	128.6	128.7	125.6	125.4	124.7	123.7	122.4
70.5°	127.6	128.3	127.9	126.9	125.4	125.7	122.4	122.2	121.8	120.7	119.5
71°	124.6	125.3	124.9	123.9	122.2	122.3	119.3	119.3	118.8	117.8	116.5
71.5°	121.5	122.2	121.7	120.7	119.1	119.4	116.4	116.4	115.8	114.8	113.5
72°	118.5	119.2	118.6	117.7	116.0	116.2	113.3	113.2	112.9	111.8	110.7
72.5°	115.7	116.3	115.7	114.5	112.9	113.2	110.4	110.3	110.1	109.0	107.6
73°	112.7	113.2	112.6	111.6	109.7	110.2	107.3	107.5	107.1	106.2	104.7
73.5°	109.8	110.3	109.6	108.5	106.8	107.2	104.6	104.8	104.4	103.4	102.2
74°	107.0	107.4	106.7	105.5	103.9	104.3	101.8	101.9	101.8	100.7	99.4
74.5°	104.3	104.6	103.8	102.8	100.9	101.5	98.9	99.2	99.0	97.9	96.6
75°	101.5	101.8	101.0	99.8	98.1	98.6	96.2	96.4	96.2	95.3	94.0
75.5°	98.7	99.0	98.1	97.0	95.3	95.8	93.5	93.8	93.7	92.5	91.3
76°	96.2	96.4	95.5	94.3	92.5	93.0	90.7	91.1	91.1	90.0	88.6
76.5°	93.4	93.7	92.5	91.5	89.8	90.3	88.2	88.6	88.5	87.5	86.2
77°	90.7	90.9	90.0	88.6	87.1	87.5	85.6	86.1	86.1	85.0	83.7
77.5°	88.3	88.4	87.4	86.1	84.5	84.8	83.0	83.5	83.5	82.6	81.3
78°	85.8	85.8	84.6	83.5	81.9	82.3	80.5	81.1	81.1	80.1	78.8
78.5°	83.1	83.2	82.2	80.9	79.3	79.7	77.9	78.6	78.7	77.6	76.3
79°	80.7	80.6	79.7	78.3	76.7	77.0	75.4	76.0	76.2	75.2	73.8
79.5°	78.3	78.2	76.9	75.8	74.2	74.6	72.9	73.6	73.8	72.9	71.4
80°	75.8	75.5	74.6	73.2	71.8	72.2	70.4	71.3	71.5	70.7	69.1
80.5°	73.5	73.3	72.2	70.8	69.3	69.7	68.0	68.9	69.0	68.2	66.8
81°	71.1	70.9	69.7	68.5	66.9	67.4	65.7	66.5	66.8	65.9	64.5
81.5°	68.6	68.4	67.4	66.1	64.6	65.1	63.5	64.3	64.6	63.8	62.3
82°	66.4	66.1	65.1	63.7	62.2	62.5	61.0	62.0	62.3	61.4	60.1
82.5°	64.2	63.9	62.6	61.4	59.9	60.3	58.9	59.7	60.1	59.3	57.8
83°	61.8	61.5	60.4	59.2	57.8	58.1	56.7	57.6	58.0	57.2	55.8
83.5°	59.6	59.3	58.2	56.9	55.4	55.9	54.4	55.4	55.9	55.1	53.6
84°	57.5	57.1	56.0	54.7	53.3	53.6	52.3	53.3	53.7	53.0	51.6
84.5°	55.3	54.9	53.8	52.6	51.2	51.4	50.2	51.2	51.7	51.0	49.6
85°	53.3	52.7	51.8	50.5	49.1	49.3	48.0	49.2	49.8	49.1	47.5
85.5°	51.1	50.7	49.7	48.5	47.0	47.2	46.1	47.1	47.6	47.0	45.5
86°	49.1	48.7	47.5	46.4	45.0	45.2	44.1	45.2	45.7	45.1	43.7
86.5°	47.0	46.5	45.6	44.4	43.1	43.3	42.2	43.2	43.9	43.2	41.8
87°	45.1	44.5	43.6	42.5	41.1	41.2	40.1	41.4	42.0	41.4	39.9
87.5°	43.2	42.7	41.7	40.5	39.1	39.3	38.3	39.5	40.0	39.5	38.1
88°	41.3	40.6	39.8	38.6	37.4	37.5	36.5	37.6	38.2	37.8	36.4
88.5°	39.3	38.8	37.9	36.8	35.5	35.6	34.7	35.9	36.5	36.0	34.6
89°	37.5	37.0	36.1	35.2	33.7	33.9	32.9	34.1	34.8	34.3	32.9
89.5°	35.6	35.3	34.5	33.5	32.0	32.0	31.2	32.3	33.0	32.6	31.2

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



TEST NUMBER: P855599  
CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P855599  
 CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	420.5	420.5	420.5	420.5	420.5	420.5
0.5°	420.4	420.3	420.2	420.4	420.3	420.7
1°	420.4	419.8	419.8	419.9	420.8	420.2
1.5°	420.4	420.3	419.6	420.3	420.3	420.2
2°	419.9	419.6	419.9	419.9	420.1	420.6
2.5°	419.3	419.2	418.9	419.6	420.2	419.9
3°	419.2	419.2	418.9	419.6	420.0	419.6
3.5°	419.2	418.8	418.9	418.9	419.3	419.9
4°	418.6	418.3	417.9	419.0	419.4	419.6
4.5°	417.9	418.2	418.0	418.4	418.8	418.7
5°	417.9	417.2	417.5	418.3	418.5	418.9
5.5°	417.4	417.3	416.7	417.8	418.4	418.5
6°	416.5	416.7	416.5	417.0	417.8	417.8
6.5°	416.0	415.8	415.9	416.9	417.2	417.6
7°	415.8	415.7	415.1	416.4	417.1	417.4
7.5°	415.2	414.9	415.0	415.6	416.4	416.2
8°	414.2	414.2	414.0	415.4	415.5	416.2
8.5°	413.7	413.7	413.5	414.2	415.3	415.8
9°	413.1	412.8	413.0	414.0	414.6	414.9
9.5°	412.2	412.3	411.8	413.1	413.8	414.0
10°	411.1	410.9	411.2	412.6	413.3	414.1
10.5°	410.7	410.6	410.3	411.7	412.6	412.9
11°	409.8	409.7	409.2	410.7	411.3	412.0
11.5°	408.6	408.6	408.9	410.0	410.8	411.5
12°	407.8	408.2	407.5	409.3	410.3	410.7
12.5°	407.2	407.0	406.9	408.3	409.1	409.3
13°	405.8	405.8	406.2	407.5	408.0	408.9
13.5°	404.9	405.3	404.5	406.0	407.5	408.2
14°	403.7	403.8	403.7	405.7	406.2	407.1
14.5°	403.0	402.9	402.9	404.0	405.3	405.9
15°	401.4	401.5	401.4	403.4	404.2	405.4
15.5°	400.5	400.4	400.6	402.2	403.0	404.1
16°	399.5	399.4	399.5	400.9	402.1	402.7
16.5°	398.1	398.2	397.8	400.0	401.1	401.9
17°	396.5	396.7	396.8	399.0	399.4	400.8
17.5°	395.6	395.9	395.4	397.6	398.6	399.5
18°	394.3	394.0	394.0	396.3	397.5	398.6
18.5°	392.7	393.2	393.0	394.7	395.9	397.5
19°	391.5	391.7	391.3	393.8	394.8	395.7
19.5°	390.3	390.3	390.1	392.1	393.5	394.5
20°	388.4	388.8	388.7	391.0	391.9	393.5
20.5°	387.0	387.2	387.1	389.6	390.6	392.2
21°	385.8	385.7	386.0	387.6	389.3	390.6
21.5°	384.3	384.6	384.2	386.6	387.4	389.4
22°	382.2	382.5	382.3	385.2	386.3	387.9

TEST NUMBER: P855599  
 CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	380.8	381.2	381.3	383.4	384.9	386.2
23°	379.4	379.4	379.2	381.8	383.0	384.3
23.5°	377.5	377.8	377.8	380.1	381.2	383.2
24°	375.7	376.4	376.2	378.7	380.1	381.7
24.5°	374.2	374.4	374.2	376.7	378.3	379.8
25°	372.5	372.8	372.4	375.4	376.6	378.1
25.5°	370.4	370.9	371.1	373.6	375.0	376.9
26°	368.8	368.9	368.8	371.4	372.9	374.7
26.5°	367.1	367.6	367.3	370.2	371.2	372.9
27°	364.9	365.4	365.2	368.3	369.9	371.4
27.5°	363.0	363.4	363.4	366.3	367.8	369.8
28°	361.2	361.8	361.6	364.5	365.7	367.6
28.5°	359.4	359.4	359.5	362.4	364.0	365.7
29°	357.0	357.7	357.7	360.8	362.0	364.2
29.5°	355.4	355.6	355.6	358.4	359.9	362.2
30°	353.4	353.7	353.4	356.9	358.3	359.8
30.5°	350.9	351.5	351.7	354.6	356.1	358.1
31°	348.5	349.3	349.2	352.3	354.0	356.3
31.5°	347.2	347.5	347.4	350.7	352.2	354.0
32°	344.5	344.8	345.1	348.3	349.8	351.7
32.5°	342.4	343.0	342.8	346.3	347.7	350.1
33°	340.3	340.8	341.0	344.2	345.8	347.9
33.5°	338.1	338.4	338.5	341.7	343.4	345.4
34°	335.3	336.2	336.3	339.8	341.3	343.3
34.5°	333.5	334.1	334.1	337.3	339.1	341.4
35°	331.3	331.6	331.6	335.4	336.5	338.9
35.5°	328.8	329.4	329.3	332.5	334.6	336.4
36°	326.2	326.7	326.9	330.6	332.2	334.6
36.5°	324.2	324.7	324.5	328.3	329.5	332.1
37°	321.3	322.1	322.2	325.6	327.7	329.4
37.5°	318.9	319.7	319.6	323.5	325.0	327.3
38°	316.5	317.2	317.2	320.9	322.4	325.0
38.5°	314.2	314.4	314.9	318.4	320.3	322.1
39°	311.3	312.1	311.9	316.0	317.7	320.0
39.5°	309.1	309.6	309.8	313.4	314.9	317.7
40°	306.4	307.0	307.0	311.1	312.8	314.8
40.5°	303.5	304.5	304.3	308.2	310.1	312.2
41°	301.0	301.6	301.9	305.7	307.2	310.0
41.5°	298.5	299.1	299.2	303.2	304.9	307.1
42°	295.6	296.5	296.5	300.2	302.3	304.5
42.5°	292.9	293.8	294.0	298.0	299.2	302.1
43°	290.3	291.1	290.8	295.1	297.0	299.4
43.5°	287.5	288.1	288.6	292.2	294.3	296.2
44°	284.5	285.5	285.6	289.7	291.1	293.8
44.5°	282.0	282.6	283.0	286.8	288.7	291.1

TEST NUMBER: P855599  
 CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	279.2	279.8	280.0	284.3	286.0	288.3
45.5°	276.2	277.1	277.1	281.2	282.9	285.2
46°	273.2	274.1	274.2	278.3	280.3	282.7
46.5°	270.6	271.4	271.6	275.7	277.6	279.7
47°	267.5	268.5	268.3	272.7	274.2	276.7
47.5°	264.6	265.4	265.8	270.0	271.7	273.8
48°	261.6	262.5	262.5	266.9	268.8	271.2
48.5°	258.9	259.3	259.5	263.8	265.8	267.8
49°	255.6	256.6	257.0	261.2	262.7	265.0
49.5°	252.7	253.4	253.6	257.9	260.1	262.2
50°	249.6	250.6	250.7	255.1	256.8	259.2
50.5°	246.4	247.3	247.6	251.9	253.7	255.8
51°	243.4	244.2	244.6	248.9	250.8	252.9
51.5°	240.6	241.5	241.6	246.0	247.8	250.0
52°	237.2	238.2	238.2	242.9	244.4	246.9
52.5°	234.1	235.3	235.5	239.8	241.8	243.6
53°	231.1	231.9	232.2	236.5	238.5	240.6
53.5°	227.9	228.8	229.0	233.3	235.2	237.6
54°	224.6	225.5	226.1	230.3	232.2	234.1
54.5°	221.7	222.4	222.7	227.1	229.1	230.9
55°	218.3	219.3	219.6	224.1	225.6	228.0
55.5°	215.0	215.9	216.3	220.6	222.8	224.8
56°	212.0	212.9	213.1	217.4	219.5	221.3
56.5°	208.6	209.5	209.9	214.3	216.1	218.3
57°	205.2	206.3	206.6	211.0	213.1	214.9
57.5°	202.1	203.1	203.3	207.8	209.8	211.5
58°	199.0	199.7	200.1	204.4	206.3	208.3
58.5°	195.4	196.6	196.6	201.3	203.3	205.3
59°	192.3	193.2	193.6	197.9	200.1	201.9
59.5°	189.1	190.1	190.3	194.7	196.6	198.5
60°	185.7	186.6	187.0	191.6	193.4	195.3
60.5°	182.5	183.5	183.8	188.0	190.3	192.1
61°	179.3	180.1	180.2	184.9	186.7	188.6
61.5°	176.0	176.8	177.2	181.6	183.5	185.3
62°	172.5	173.6	173.8	178.1	180.3	182.2
62.5°	169.4	170.2	170.7	175.0	177.1	178.9
63°	166.1	167.0	167.4	171.6	173.4	175.4
63.5°	162.7	163.7	163.9	168.5	170.5	172.2
64°	159.5	160.5	160.7	165.0	167.0	169.0
64.5°	156.4	157.1	157.4	161.9	163.8	165.6
65°	153.1	154.1	154.1	158.6	160.7	162.2
65.5°	149.7	150.8	151.0	155.3	157.5	159.1
66°	146.7	147.6	147.7	152.1	153.9	155.9
66.5°	143.6	144.4	144.4	149.0	151.0	152.7
67°	140.3	141.1	141.3	145.7	147.8	149.5

TEST NUMBER: P855599  
 CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	137.1	138.1	138.1	142.6	144.5	146.4
68°	134.0	134.9	135.1	139.5	141.3	142.9
68.5°	131.0	131.8	132.0	136.2	138.5	139.9
69°	127.8	128.6	128.8	133.2	135.1	136.8
69.5°	124.9	125.5	125.8	130.1	132.1	133.8
70°	121.8	122.7	122.8	127.1	129.1	130.6
70.5°	118.8	119.4	119.7	123.9	126.1	127.6
71°	115.8	116.6	116.7	121.0	123.0	124.6
71.5°	112.9	113.6	113.7	118.0	120.1	121.5
72°	109.9	110.6	110.9	114.9	117.1	118.5
72.5°	107.0	107.8	108.0	112.2	114.1	115.7
73°	104.1	104.9	105.1	109.2	111.3	112.7
73.5°	101.5	102.2	102.3	106.4	108.5	109.8
74°	98.6	99.2	99.6	103.6	105.6	107.0
74.5°	95.9	96.6	96.9	100.9	103.0	104.3
75°	93.3	94.0	94.2	98.1	100.1	101.5
75.5°	90.5	91.2	91.6	95.4	97.5	98.7
76°	88.0	88.7	88.9	93.0	94.9	96.2
76.5°	85.5	86.1	86.4	90.3	92.1	93.4
77°	82.9	83.5	83.9	87.7	89.6	90.7
77.5°	80.4	80.9	81.3	85.2	87.2	88.3
78°	77.8	78.5	79.0	82.6	84.5	85.8
78.5°	75.4	76.0	76.4	80.2	82.0	83.1
79°	73.0	73.6	74.0	77.7	79.6	80.7
79.5°	70.6	71.2	71.7	75.3	77.1	78.3
80°	68.1	68.8	69.2	73.0	74.8	75.8
80.5°	65.9	66.6	67.0	70.6	72.4	73.5
81°	63.7	64.3	64.7	68.3	70.1	71.1
81.5°	61.3	61.8	62.5	66.1	67.7	68.6
82°	59.1	59.7	60.3	63.8	65.5	66.4
82.5°	56.9	57.6	58.1	61.6	63.3	64.2
83°	54.7	55.3	56.0	59.4	61.1	61.8
83.5°	52.6	53.2	53.8	57.4	58.9	59.6
84°	50.6	51.2	51.9	55.1	56.8	57.5
84.5°	48.5	49.2	49.9	53.1	54.7	55.3
85°	46.5	47.1	47.8	51.2	52.6	53.3
85.5°	44.5	45.1	45.9	49.1	50.6	51.1
86°	42.6	43.2	44.0	47.2	48.7	49.1
86.5°	40.6	41.3	42.1	45.2	46.6	47.0
87°	38.8	39.4	40.2	43.4	44.7	45.1
87.5°	37.1	37.6	38.4	41.5	42.9	43.2
88°	35.3	35.7	36.7	39.6	41.0	41.3
88.5°	33.5	34.1	35.1	37.9	39.1	39.3
89°	31.8	32.4	33.5	36.2	37.3	37.5
89.5°	30.1	30.8	31.8	34.6	36.1	35.6

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

  
NVLAP Lab Code: 200050-0



TEST NUMBER: P855599  
CATALOG NUMBER: HLSMS9129FS1EWH-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)