

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: P855593

Luminaire Tested: **HLS9129FS1EWH-2700K**

Issue Date: 7/16/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-08  
 Report Number: P855593  
 Test Lab:  
 Issue Date: 7/16/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: HALO  
 Catalog Number: HLS9129FS1EWH-2700K  
 Description: 9IN 1200LM, 90CRI, DIMMING TO 10%, DAMP LOCATION  
 Light Source: SELECTABLE CCT 90CRI / 2700K CCT  
 Ballast/Driver: -

**Summary**

Lumens per Lamp: 1287.7 (1 lamp)  
 Luminaire Lumens: 1245.0 lumens  
 Efficiency: 96.7%  
 Efficacy: 76.4 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

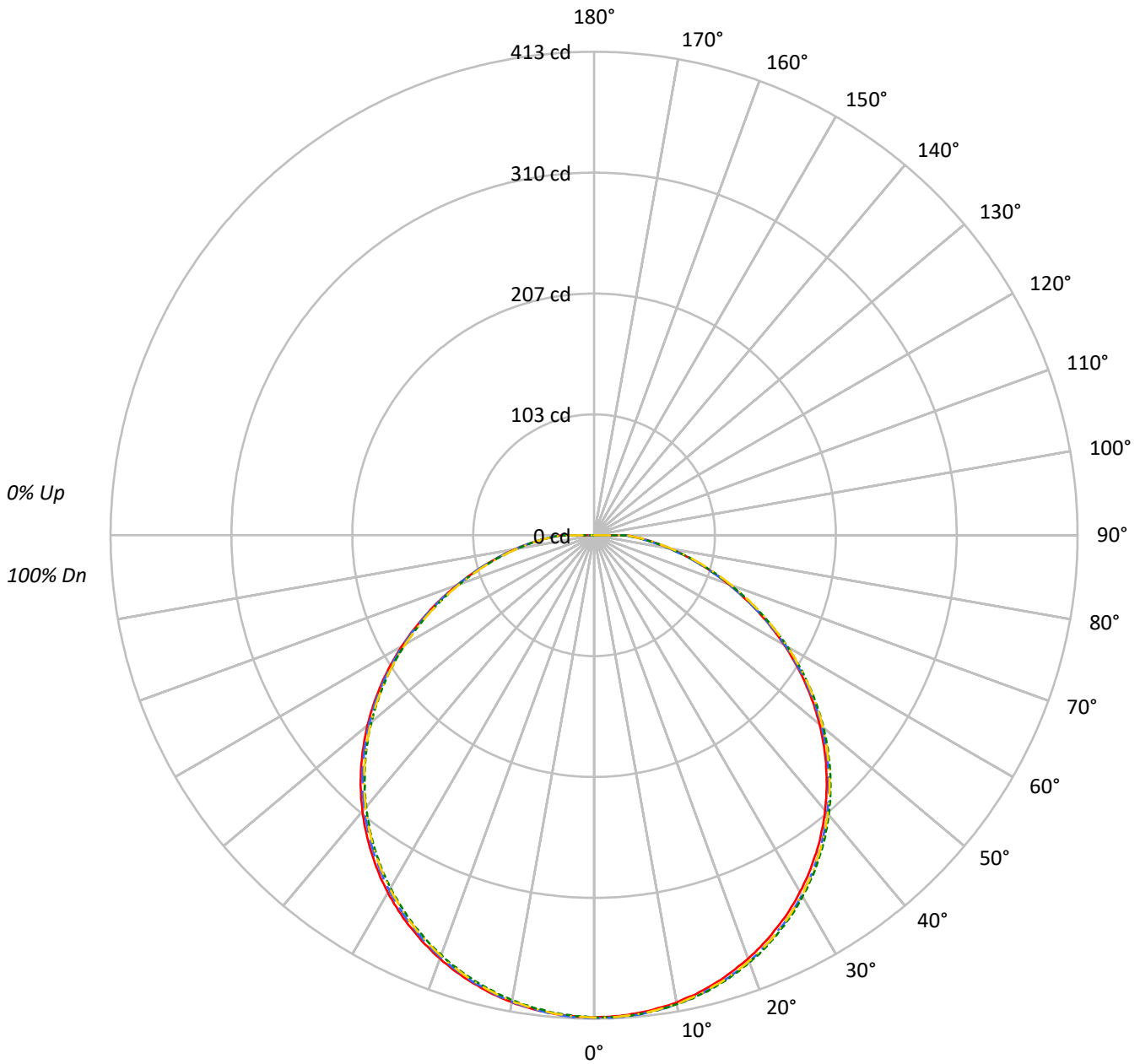
Input Watts (W): 16.3  
 Input Voltage (V): NR  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 25 FT



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



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

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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	0
RCR																					
0	115	115	115	115	112	112	112	112	107	107	107	103	103	103	99	99	99	99	99	99	97
1	104	99	95	91	101	97	93	89	93	89	86	89	86	84	85	83	81	85	83	81	79
2	94	86	79	73	92	84	78	72	81	75	70	77	73	69	74	71	67	74	71	67	65
3	86	75	67	60	83	74	66	60	71	64	59	68	62	58	65	61	57	65	61	57	54
4	78	66	58	51	76	65	57	51	63	56	50	60	54	49	58	53	48	58	53	48	46
5	72	59	50	44	70	58	50	43	56	49	43	54	48	42	52	47	42	52	47	42	40
6	67	53	44	38	65	52	44	38	51	43	38	49	42	37	47	41	37	47	41	37	35
7	62	48	40	34	60	47	39	33	46	39	33	45	38	33	43	37	33	43	37	33	31
8	57	44	36	30	56	43	35	30	42	35	30	41	34	29	40	34	29	40	34	29	27
9	54	40	32	27	52	40	32	27	39	32	27	38	31	26	37	31	26	37	31	26	25
10	50	37	29	24	49	37	29	24	36	29	24	35	28	24	34	28	24	34	28	24	22

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

	0°	90°	180°	270°
0°	10038	10038	10038	10038
5°	10028	10047	10025	10010
10°	10027	10067	10020	9983
15°	10006	10074	10006	9943
20°	9980	10071	9975	9892
25°	9941	10049	9949	9847
30°	9897	10024	9909	9785
35°	9848	9976	9857	9717
40°	9764	9920	9793	9637
45°	9658	9830	9700	9531
50°	9529	9704	9582	9408
55°	9354	9524	9426	9252
60°	9146	9307	9234	9073
65°	8907	9051	9040	8873
70°	8719	8826	8883	8727
75°	8717	8792	8934	8774
80°	9289	9289	9583	9429
85°	12356	12133	12803	12636

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	39.0	3.1	3.0
10°-20°	112.0	9.0	8.7
20°-30°	170.6	13.7	13.2
30°-40°	207.2	16.6	16.1
40°-50°	216.6	17.4	16.8
50°-60°	197.5	15.9	15.3
60°-70°	154.1	12.4	12.0
70°-80°	99.3	8.0	7.7
80°-90°	48.7	3.9	3.8
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°	321.6	25.8	25.0
0°-40°	528.8	42.5	41.1
0°-60°	942.9	75.7	73.2
0°-90°	1245.0	100.0	96.7
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°	1245.0	100.0	96.7

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	412	412	412	412	412	
5°	410	411	410	409	410	39
15°	397	399	397	394	397	112
25°	370	374	370	366	370	170
35°	331	335	331	327	331	207
45°	280	285	282	277	280	216
55°	220	224	222	218	220	197
65°	154	157	157	154	154	153
75°	93	93	95	93	93	98
85°	44	43	46	45	44	48
90°	0	0	0	0	0	

TEST NUMBER: P855593  
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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	412.0	412.0	412.0	412.0	412.0	412.0	412.0	412.0	412.0	412.0	412.0
0.5°	411.8	412.2	412.5	412.0	411.9	411.9	412.2	412.0	411.9	412.1	412.5
1°	411.6	411.8	412.6	412.2	412.0	411.9	411.9	412.0	411.6	411.8	412.4
1.5°	411.6	412.2	412.4	412.3	411.8	411.8	412.1	411.9	411.6	412.0	412.0
2°	411.4	411.7	412.3	412.2	411.8	412.2	411.8	411.9	411.6	411.3	411.9
2.5°	411.2	411.7	412.4	411.8	412.0	411.8	412.0	411.8	411.1	411.5	412.0
3°	411.4	411.4	412.1	412.1	411.7	411.7	411.7	411.8	411.1	411.4	411.5
3.5°	410.9	411.3	412.2	411.7	411.3	411.6	411.6	411.6	410.9	410.9	411.2
4°	410.8	411.1	411.9	411.7	411.6	411.6	411.4	411.5	410.9	410.7	411.0
4.5°	410.2	411.0	411.3	411.4	411.5	411.2	411.2	410.8	410.4	410.4	410.3
5°	410.0	410.4	411.3	411.2	410.8	411.2	410.8	410.8	409.9	410.0	410.1
5.5°	409.6	410.4	411.2	410.5	410.8	410.6	410.8	410.3	409.8	409.4	410.0
6°	409.4	409.6	410.6	410.4	410.4	410.2	410.1	410.1	409.0	409.4	409.3
6.5°	409.0	409.5	410.2	410.0	409.9	410.1	410.1	409.8	408.9	409.0	408.8
7°	408.6	408.9	409.9	409.9	410.1	409.8	409.5	409.3	408.6	408.3	408.3
7.5°	407.8	408.8	409.6	409.5	409.4	409.3	409.3	408.6	408.0	407.5	407.7
8°	407.4	408.2	408.9	409.1	408.7	409.0	408.4	408.2	407.3	407.3	407.0
8.5°	406.9	407.2	408.6	408.3	408.3	408.2	408.1	407.7	407.0	406.7	406.8
9°	406.5	406.9	407.9	408.0	408.1	407.7	407.4	407.4	406.3	406.1	405.9
9.5°	405.9	406.6	407.4	407.1	407.4	407.4	407.0	406.5	406.0	405.7	405.4
10°	405.3	405.9	406.7	406.9	406.9	406.7	406.4	406.1	405.0	404.9	404.6
10.5°	404.3	404.9	406.3	406.4	406.3	406.3	406.0	405.3	404.4	404.1	403.8
11°	403.5	404.3	405.5	405.7	405.7	405.6	405.1	404.7	403.6	403.3	402.9
11.5°	402.8	403.6	404.7	404.8	404.9	404.8	404.3	403.8	403.0	402.6	402.5
12°	402.3	402.8	404.1	404.1	404.7	404.1	403.6	403.1	401.9	401.7	401.3
12.5°	401.5	402.3	403.0	403.5	403.6	403.5	402.9	402.3	401.3	401.0	400.5
13°	400.4	401.1	402.4	402.5	402.7	402.6	401.9	401.4	400.6	400.0	399.4
13.5°	399.6	400.2	401.7	401.8	402.1	401.9	401.3	400.8	399.4	399.1	398.7
14°	398.6	399.4	400.6	401.0	401.5	400.9	400.3	400.0	398.5	398.2	397.3
14.5°	397.7	398.6	399.4	400.0	400.2	400.0	399.3	398.6	397.4	396.9	396.5
15°	396.7	397.4	398.9	399.0	399.4	398.9	398.1	397.7	396.7	395.9	395.6
15.5°	395.6	396.6	397.6	398.4	398.3	398.1	397.5	396.7	395.6	395.3	394.6
16°	394.7	395.2	396.7	397.1	397.3	397.2	396.5	395.9	394.5	394.1	393.1
16.5°	393.5	394.5	395.7	395.9	396.7	396.2	395.5	394.7	393.4	392.7	392.1
17°	392.2	393.1	394.7	395.2	395.6	395.1	394.3	393.9	392.2	391.6	391.0
17.5°	391.1	392.3	393.3	394.1	394.0	393.8	393.1	392.3	391.2	390.8	389.9
18°	389.9	390.8	392.4	392.8	393.1	392.8	391.9	391.0	390.2	389.3	388.7
18.5°	388.5	389.6	391.0	391.8	392.1	391.8	390.9	390.0	388.6	388.0	387.4
19°	387.4	388.5	389.7	390.4	390.6	390.6	389.5	389.0	387.4	387.0	386.1
19.5°	386.2	387.4	388.5	389.2	389.5	389.3	388.6	387.5	386.5	385.4	385.0
20°	384.9	385.8	387.6	387.9	388.4	388.0	386.9	386.5	384.7	384.3	383.5
20.5°	383.4	384.5	386.1	386.9	386.8	386.6	386.2	385.1	383.6	382.9	382.1
21°	382.1	383.2	384.7	385.4	385.8	385.6	384.6	383.5	382.3	381.6	380.7
21.5°	380.6	381.8	383.2	384.0	384.6	384.1	383.1	382.2	380.8	380.2	379.2
22°	379.3	380.3	381.8	382.7	382.8	382.6	381.7	380.9	379.1	378.6	377.6

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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°	377.6	379.0	380.2	381.0	381.6	381.3	380.4	379.2	378.1	377.1	376.2
23°	376.2	377.3	378.9	379.7	380.4	379.8	378.7	378.1	376.6	375.6	374.7
23.5°	374.7	376.0	377.2	378.0	378.5	378.2	377.6	376.5	374.8	374.1	373.0
24°	373.2	374.2	375.8	376.8	377.0	376.6	375.8	374.8	373.2	372.5	371.4
24.5°	371.3	372.8	374.3	375.0	375.7	375.1	374.1	372.9	371.6	370.5	370.0
25°	369.8	371.3	372.1	373.5	373.8	373.6	372.5	371.6	370.1	369.4	368.2
25.5°	368.3	369.4	370.9	371.8	372.1	372.0	371.0	369.8	368.7	367.8	366.6
26°	366.5	367.9	369.4	370.0	370.8	370.0	369.5	368.5	366.9	366.0	365.0
26.5°	364.9	366.3	367.7	368.3	368.9	368.7	367.7	366.7	365.3	363.9	363.2
27°	363.2	364.4	365.7	366.8	367.2	367.1	365.9	365.0	363.1	362.4	361.2
27.5°	361.3	362.7	364.3	364.8	365.6	365.2	364.3	363.1	361.8	360.5	359.8
28°	359.3	360.8	362.2	363.3	363.9	363.4	362.4	361.2	359.8	358.9	357.4
28.5°	357.8	358.9	360.5	361.3	362.0	361.8	360.6	359.3	358.2	356.8	356.0
29°	355.8	357.2	358.6	359.4	360.1	359.6	358.9	357.6	356.0	355.1	353.9
29.5°	353.8	355.3	356.9	357.5	358.3	357.7	356.7	355.8	354.5	353.1	352.2
30°	351.8	353.3	354.8	355.4	356.3	355.9	355.1	353.7	352.2	351.1	350.0
30.5°	350.0	351.2	352.8	353.7	354.3	354.1	353.2	351.7	350.4	349.1	348.3
31°	347.8	349.5	350.6	351.5	352.7	352.0	350.9	349.9	348.2	347.3	346.0
31.5°	345.9	347.4	348.7	349.6	350.4	350.0	349.0	347.9	346.4	345.4	344.1
32°	344.0	345.4	346.9	347.6	348.2	347.9	347.1	345.7	344.5	343.3	341.8
32.5°	341.8	343.3	344.7	345.4	346.5	346.1	344.9	343.8	342.3	341.1	340.1
33°	339.7	341.3	342.6	343.5	344.5	343.9	343.1	341.7	340.1	339.0	337.7
33.5°	337.5	339.0	340.4	341.2	342.2	341.9	340.8	339.4	338.2	336.7	335.6
34°	335.2	336.6	338.1	339.0	340.1	339.5	338.4	337.1	335.8	334.3	333.3
34.5°	332.9	334.7	336.0	336.9	337.8	337.3	336.2	335.1	333.5	332.5	331.3
35°	331.1	332.3	333.9	334.4	335.4	335.1	334.2	332.8	331.4	330.4	329.1
35.5°	328.7	330.5	331.3	332.4	333.5	333.0	331.8	330.7	329.3	328.1	326.9
36°	326.5	327.9	329.3	330.2	331.1	330.6	329.8	328.4	326.9	325.6	324.5
36.5°	324.1	325.7	326.9	327.7	328.8	328.6	327.4	326.0	324.7	323.5	322.2
37°	321.6	323.1	324.4	325.2	326.6	326.0	325.1	323.7	322.4	321.1	319.8
37.5°	319.0	320.9	322.3	323.1	324.3	323.7	322.6	321.4	319.9	318.6	317.6
38°	317.0	318.3	319.7	320.6	321.4	321.2	320.3	318.9	317.5	316.4	315.0
38.5°	314.5	316.2	317.2	318.0	319.3	318.8	317.8	316.4	315.2	313.7	312.6
39°	312.0	313.7	314.9	315.8	316.8	316.6	315.4	313.9	312.6	311.6	310.5
39.5°	309.7	311.0	312.4	313.1	314.3	314.0	313.0	311.7	310.4	309.0	308.0
40°	307.0	308.6	309.8	310.6	311.9	311.4	310.4	309.2	307.9	306.6	305.2
40.5°	304.4	306.1	307.3	308.0	309.4	309.1	307.8	306.5	305.1	304.1	302.9
41°	301.8	303.4	304.7	305.6	306.6	306.5	305.2	304.1	302.6	301.5	300.3
41.5°	299.4	300.7	302.0	302.8	304.2	303.6	302.8	301.4	300.3	298.8	297.9
42°	296.5	298.2	299.3	300.1	301.6	301.2	300.2	298.7	297.6	296.4	295.3
42.5°	293.9	295.6	296.7	297.5	298.8	298.5	297.6	296.2	294.8	293.8	292.6
43°	291.5	292.9	293.8	294.8	296.2	295.7	294.8	293.4	292.4	291.2	289.9
43.5°	288.7	290.3	291.5	292.1	293.5	293.1	292.3	291.0	289.8	288.4	287.4
44°	285.9	287.5	288.5	289.4	290.7	290.4	289.5	288.1	286.7	285.9	284.6
44.5°	283.2	284.4	285.8	286.5	287.9	287.7	286.7	285.5	284.2	283.1	282.0

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	280.3	282.0	282.9	283.7	285.3	284.8	284.0	282.6	281.5	280.2	279.1
45.5°	277.7	279.1	280.1	280.9	282.4	281.9	281.3	279.8	278.7	277.4	276.5
46°	274.8	276.2	277.3	278.1	279.6	279.1	278.4	277.0	275.7	274.7	273.8
46.5°	272.0	273.5	274.4	275.1	276.5	276.5	275.4	274.2	273.2	272.0	271.0
47°	269.1	270.5	271.6	272.1	273.9	273.4	272.6	271.4	270.2	269.2	268.1
47.5°	266.2	267.5	268.8	269.4	270.9	270.6	269.8	268.4	267.3	266.3	265.3
48°	263.3	264.6	265.6	266.4	268.0	267.5	267.2	265.5	264.5	263.4	262.3
48.5°	260.4	261.8	262.6	263.4	264.9	264.7	263.9	262.8	261.5	260.4	259.7
49°	257.5	258.8	259.9	260.3	262.0	261.5	261.0	259.7	258.6	257.5	256.6
49.5°	254.5	255.6	256.8	257.3	258.9	258.7	257.9	256.6	255.6	254.6	253.7
50°	251.4	252.8	253.7	254.3	256.0	255.6	255.1	253.7	252.8	251.7	250.7
50.5°	248.4	249.6	250.7	251.1	252.8	252.6	252.0	250.6	249.7	248.8	247.9
51°	245.3	246.5	247.5	248.1	249.7	249.4	249.0	247.6	246.7	245.8	244.7
51.5°	242.2	243.4	244.3	244.9	246.7	246.4	245.7	244.6	243.6	242.7	241.9
52°	239.3	240.4	241.3	241.8	243.7	243.3	242.9	241.7	240.7	239.8	238.8
52.5°	236.3	237.2	238.2	238.7	240.3	240.2	239.5	238.4	237.5	236.5	235.7
53°	232.9	234.0	235.0	235.4	237.1	237.0	236.5	235.2	234.5	233.6	232.7
53.5°	229.8	231.0	231.8	232.2	234.0	233.8	233.4	232.3	231.3	230.5	229.6
54°	226.7	227.7	228.4	228.8	230.9	230.5	230.2	228.9	228.2	227.4	226.5
54.5°	223.4	224.6	225.1	225.8	227.5	227.4	227.0	226.0	224.9	224.2	223.4
55°	220.2	221.2	222.1	222.5	224.2	224.2	223.8	222.7	221.9	221.1	220.3
55.5°	217.2	218.0	218.9	219.2	221.0	220.8	220.5	219.5	218.7	218.0	217.2
56°	213.9	214.9	215.5	215.9	217.7	217.6	217.5	216.3	215.7	214.6	214.0
56.5°	210.5	211.5	212.3	212.6	214.5	214.4	214.1	213.1	212.2	211.5	210.7
57°	207.4	208.3	208.8	209.3	211.2	211.0	210.9	209.8	209.3	208.3	207.7
57.5°	204.1	204.9	205.5	205.8	207.7	207.6	207.4	206.4	206.0	205.1	204.4
58°	200.8	201.5	202.2	202.5	204.4	204.4	204.1	203.3	202.6	201.9	201.2
58.5°	197.5	198.3	198.9	199.1	201.0	200.9	200.9	200.0	199.4	198.7	198.1
59°	194.3	195.1	195.6	196.0	197.8	198.0	197.5	196.8	196.2	195.5	194.9
59.5°	190.9	191.8	192.3	192.4	194.4	194.4	194.1	193.4	192.9	192.1	191.5
60°	187.7	188.2	188.8	189.1	191.0	190.9	190.9	190.0	189.5	189.0	188.4
60.5°	184.3	185.0	185.4	185.6	187.6	187.6	187.5	186.7	186.4	185.7	185.2
61°	180.9	181.6	181.8	182.2	184.1	184.4	184.1	183.5	183.0	182.5	181.9
61.5°	177.7	178.3	178.8	178.7	180.7	180.7	180.7	180.1	179.7	179.2	178.7
62°	174.4	174.9	175.3	175.6	177.4	177.6	177.5	176.8	176.5	176.0	175.5
62.5°	171.0	171.6	171.9	172.1	173.9	174.2	174.1	173.5	173.2	172.7	172.2
63°	167.8	168.2	168.4	168.7	170.5	170.8	170.7	170.1	169.9	169.4	168.9
63.5°	164.5	164.8	165.0	165.2	167.2	167.3	167.4	166.8	166.6	166.0	165.7
64°	161.0	161.5	161.6	161.8	163.8	164.0	164.0	163.6	163.2	162.8	162.4
64.5°	157.8	158.2	158.4	158.5	160.3	160.6	160.7	160.2	160.0	159.6	159.2
65°	154.5	154.8	154.9	155.1	157.0	157.4	157.5	157.0	156.8	156.5	156.0
65.5°	151.2	151.6	151.6	151.8	153.6	154.0	154.2	153.6	153.6	153.1	152.8
66°	147.9	148.2	148.2	148.3	150.3	150.5	150.7	150.4	150.3	149.9	149.5
66.5°	144.7	144.8	144.9	144.9	147.0	147.2	147.4	147.0	147.0	146.6	146.3
67°	141.4	141.7	141.6	141.7	143.6	143.9	144.2	143.7	143.8	143.4	143.1



TEST NUMBER: P855593  
 CATALOG NUMBER: HLS9129FS1EWH-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	138.2	138.3	138.4	138.5	140.3	140.8	140.9	140.7	140.7	140.3	140.1
68°	135.1	135.1	135.1	135.1	137.0	137.4	137.8	137.4	137.5	137.1	136.9
68.5°	131.9	131.8	131.8	131.8	133.8	134.2	134.5	134.3	134.3	134.0	133.8
69°	128.6	128.7	128.5	128.6	130.5	130.9	131.3	131.1	130.9	130.8	130.5
69.5°	125.4	125.3	125.3	125.3	127.2	127.7	127.9	127.8	127.9	127.7	127.5
70°	122.4	122.2	122.2	122.2	123.9	124.4	124.9	124.6	124.7	124.6	124.3
70.5°	119.2	119.2	119.0	118.9	120.7	121.4	121.7	121.7	121.7	121.6	121.3
71°	116.2	116.0	115.8	115.8	117.7	118.2	118.5	118.6	118.6	118.5	118.3
71.5°	113.2	112.9	112.6	112.7	114.5	115.1	115.5	115.4	115.6	115.4	115.2
72°	110.1	109.7	109.6	109.6	111.4	112.0	112.4	112.4	112.5	112.5	112.2
72.5°	107.0	106.8	106.5	106.4	108.3	108.9	109.3	109.4	109.4	109.4	109.2
73°	104.0	103.8	103.5	103.5	105.2	105.7	106.3	106.2	106.4	106.4	106.3
73.5°	101.2	100.8	100.5	100.5	102.3	102.8	103.3	103.4	103.6	103.6	103.3
74°	98.3	97.8	97.6	97.5	99.2	99.9	100.3	100.5	100.7	100.7	100.5
74.5°	95.4	94.9	94.6	94.5	96.3	96.9	97.5	97.6	97.8	97.8	97.7
75°	92.6	92.0	91.7	91.6	93.4	93.9	94.5	94.6	94.9	95.0	94.7
75.5°	89.8	89.2	88.8	88.7	90.5	91.1	91.6	91.9	92.0	92.1	92.0
76°	87.0	86.4	86.0	85.8	87.6	88.2	88.8	89.0	89.2	89.4	89.2
76.5°	84.2	83.7	83.2	83.2	85.0	85.5	86.0	86.2	86.5	86.6	86.4
77°	81.5	80.9	80.5	80.4	82.3	82.9	83.4	83.6	84.0	84.1	83.9
77.5°	79.0	78.3	77.9	77.6	79.5	80.2	80.7	80.9	81.3	81.4	81.3
78°	76.4	75.6	75.1	75.1	76.8	77.5	78.0	78.2	78.7	78.8	78.7
78.5°	73.7	73.0	72.4	72.3	74.1	74.7	75.3	75.5	76.0	76.2	76.1
79°	71.1	70.4	69.9	69.7	71.4	72.0	72.7	73.1	73.4	73.6	73.5
79.5°	68.7	67.8	67.3	67.1	68.8	69.4	70.1	70.4	70.9	71.1	70.9
80°	66.2	65.5	64.9	64.7	66.2	66.8	67.5	67.9	68.3	68.5	68.5
80.5°	64.0	63.1	62.5	62.4	63.8	64.5	65.1	65.6	66.0	66.2	66.1
81°	61.5	60.7	60.1	59.9	61.4	62.0	62.7	63.1	63.5	63.8	63.7
81.5°	59.2	58.2	57.7	57.4	59.0	59.6	60.3	60.7	61.2	61.4	61.3
82°	56.9	56.0	55.3	55.1	56.6	57.2	57.9	58.4	58.8	59.0	58.9
82.5°	54.7	53.7	53.1	52.8	54.2	54.8	55.6	56.1	56.5	56.7	56.7
83°	52.4	51.5	50.8	50.6	51.9	52.5	53.2	53.8	54.2	54.5	54.4
83.5°	50.3	49.3	48.7	48.3	49.8	50.3	51.0	51.7	52.1	52.3	52.3
84°	48.2	47.3	46.7	46.3	47.6	48.1	48.9	49.5	49.9	50.1	50.1
84.5°	46.2	45.3	44.6	44.3	45.5	46.2	46.8	47.3	47.8	48.0	48.0
85°	44.2	43.2	42.5	42.2	43.4	44.0	44.7	45.3	45.8	46.0	46.0
85.5°	42.2	41.2	40.5	40.2	41.3	41.9	42.7	43.2	43.8	43.9	44.0
86°	40.2	39.3	38.6	38.3	39.4	39.9	40.6	41.3	41.7	42.0	42.0
86.5°	38.3	37.4	36.7	36.3	37.4	38.0	38.7	39.3	39.8	40.0	40.0
87°	36.5	35.6	34.8	34.6	35.6	36.0	36.8	37.4	37.9	38.1	38.2
87.5°	35.0	33.9	33.1	32.9	33.7	34.2	34.9	35.6	36.0	36.3	36.3
88°	33.2	32.2	31.5	31.2	32.0	32.5	33.1	33.8	34.2	34.4	34.6
88.5°	31.5	30.6	29.8	29.5	30.2	30.7	31.3	32.0	32.5	32.7	32.8
89°	29.8	28.9	28.3	27.9	28.5	28.9	29.6	30.3	30.7	31.0	31.1
89.5°	28.1	27.3	26.7	26.3	27.0	27.4	28.1	28.6	29.0	29.3	29.4

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



TEST NUMBER: P855593  
CATALOG NUMBER: HLS9129FS1EWH-2700K

**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: P855593  
 CATALOG NUMBER: HLS9129FS1EWH-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	412.0	412.0	412.0	412.0	412.0	412.0
0.5°	412.2	411.8	411.7	412.0	412.0	411.8
1°	411.7	411.4	411.7	411.7	411.9	411.6
1.5°	411.8	411.0	411.4	411.7	411.6	411.6
2°	411.7	411.3	411.3	411.4	411.4	411.4
2.5°	411.4	410.9	410.9	411.5	411.5	411.2
3°	410.9	410.4	410.9	411.0	411.3	411.4
3.5°	411.1	410.2	410.4	411.0	410.9	410.9
4°	410.5	409.9	410.0	410.4	410.8	410.8
4.5°	409.9	409.3	409.8	410.1	410.4	410.2
5°	409.7	409.3	409.1	409.8	409.8	410.0
5.5°	409.1	408.7	408.8	409.1	409.7	409.6
6°	408.9	408.0	408.5	408.8	409.4	409.4
6.5°	408.2	407.4	407.8	408.4	408.5	409.0
7°	407.7	407.4	407.4	407.9	408.1	408.6
7.5°	407.1	406.6	407.0	407.2	407.6	407.8
8°	406.8	405.8	406.2	406.7	407.1	407.4
8.5°	405.8	405.5	405.5	406.1	406.3	406.9
9°	405.4	404.7	404.9	405.2	406.2	406.5
9.5°	404.7	403.8	404.4	404.9	405.2	405.9
10°	404.2	403.5	403.4	404.2	404.7	405.3
10.5°	403.0	402.3	402.6	403.1	403.8	404.3
11°	402.4	401.7	402.0	402.4	403.2	403.5
11.5°	401.7	400.7	400.9	401.8	402.2	402.8
12°	400.5	400.2	400.0	400.8	401.4	402.3
12.5°	399.8	398.8	399.4	399.8	400.5	401.5
13°	399.0	398.0	398.3	399.1	399.6	400.4
13.5°	397.8	397.0	397.1	398.0	398.7	399.6
14°	396.6	396.1	396.5	396.8	397.8	398.6
14.5°	395.9	394.9	395.2	396.2	396.7	397.7
15°	395.0	394.2	394.0	394.8	395.6	396.7
15.5°	393.5	392.7	393.1	393.5	394.4	395.6
16°	392.6	391.7	392.0	392.7	393.6	394.7
16.5°	391.4	390.7	390.7	391.6	392.5	393.5
17°	390.2	389.4	389.7	390.1	391.5	392.2
17.5°	389.1	387.8	388.1	389.1	389.9	391.1
18°	387.8	387.1	387.1	387.8	388.7	389.9
18.5°	386.7	385.7	386.0	386.3	387.6	388.5
19°	385.0	384.5	384.8	385.3	386.2	387.4
19.5°	384.1	383.1	383.3	384.1	385.2	386.2
20°	382.4	381.5	381.9	382.3	383.8	384.9
20.5°	381.5	380.0	380.5	381.0	382.1	383.4
21°	379.6	378.8	379.0	379.8	380.8	382.1
21.5°	378.3	377.3	377.5	378.1	379.3	380.6
22°	376.8	375.9	376.1	376.6	377.6	379.3

TEST NUMBER: P855593  
 CATALOG NUMBER: HLS9129FS1EWH-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	375.4	374.2	374.6	375.1	376.3	377.6
23°	373.6	372.7	372.9	373.6	374.9	376.2
23.5°	372.2	370.9	371.3	371.7	373.2	374.7
24°	370.7	369.4	369.6	370.6	371.7	373.2
24.5°	369.0	367.9	368.1	368.7	369.9	371.3
25°	367.3	366.3	366.5	367.0	368.3	369.8
25.5°	365.8	364.4	364.8	365.5	366.5	368.3
26°	363.8	363.1	362.8	363.8	365.1	366.5
26.5°	362.2	360.8	361.3	361.9	363.3	364.9
27°	360.3	359.1	359.5	360.1	361.2	363.2
27.5°	358.6	357.3	357.6	358.3	359.5	361.3
28°	356.5	355.6	355.8	356.2	357.8	359.3
28.5°	354.9	353.5	354.1	354.4	355.7	357.8
29°	353.1	351.8	351.9	352.7	353.9	355.8
29.5°	351.0	349.7	350.0	350.6	352.1	353.8
30°	349.1	347.8	348.1	348.5	350.1	351.8
30.5°	347.1	345.7	346.1	346.8	347.9	350.0
31°	345.2	344.0	344.2	344.5	346.4	347.8
31.5°	343.2	341.8	342.1	342.7	343.9	345.9
32°	341.2	339.8	340.0	340.4	341.9	344.0
32.5°	339.0	337.6	337.8	338.6	339.7	341.8
33°	337.0	335.5	335.7	336.2	337.8	339.7
33.5°	334.5	333.1	333.6	334.2	335.5	337.5
34°	332.5	331.2	331.4	331.9	333.3	335.2
34.5°	330.6	328.9	329.3	329.7	331.3	332.9
35°	328.1	326.7	326.9	327.6	329.0	331.1
35.5°	326.0	324.4	324.6	325.1	326.5	328.7
36°	323.7	322.1	322.4	322.9	324.5	326.5
36.5°	321.4	319.6	319.9	320.6	322.1	324.1
37°	318.8	317.7	317.6	318.2	319.7	321.6
37.5°	316.6	315.2	315.4	316.0	317.3	319.0
38°	314.3	312.6	312.9	313.4	314.7	317.0
38.5°	311.9	310.3	310.4	311.1	312.4	314.5
39°	309.5	308.0	308.2	308.7	310.1	312.0
39.5°	307.1	305.2	305.7	306.1	307.6	309.7
40°	304.5	303.0	303.0	303.8	305.0	307.0
40.5°	302.0	300.3	300.6	300.9	302.5	304.4
41°	299.5	297.8	297.9	298.6	300.0	301.8
41.5°	297.0	295.2	295.5	296.0	297.3	299.4
42°	294.3	292.9	292.9	293.4	294.6	296.5
42.5°	291.8	289.9	290.5	290.7	292.3	293.9
43°	289.3	287.5	287.5	288.3	289.6	291.5
43.5°	286.6	284.6	284.9	285.2	286.9	288.7
44°	283.7	282.2	282.3	282.6	284.1	285.9
44.5°	281.0	279.4	279.6	280.0	281.4	283.2

TEST NUMBER: P855593  
 CATALOG NUMBER: HLS9129FS1EWH-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	278.3	276.6	276.6	277.3	278.7	280.3
45.5°	275.7	273.8	274.2	274.5	276.0	277.7
46°	273.0	271.2	271.3	271.6	273.2	274.8
46.5°	270.3	268.4	268.5	269.0	270.2	272.0
47°	267.3	265.7	265.8	266.1	267.6	269.1
47.5°	264.4	262.5	262.8	263.2	264.4	266.2
48°	261.7	259.9	259.8	260.3	261.6	263.3
48.5°	258.9	257.0	257.1	257.5	258.8	260.4
49°	255.8	254.1	254.3	254.6	255.8	257.5
49.5°	253.0	251.2	251.2	251.7	252.9	254.5
50°	250.1	248.2	248.4	248.6	250.2	251.4
50.5°	247.1	245.1	245.2	245.7	246.8	248.4
51°	244.2	242.4	242.3	242.9	243.8	245.3
51.5°	241.3	239.3	239.3	239.7	240.9	242.2
52°	238.2	236.3	236.5	236.7	238.0	239.3
52.5°	235.1	233.2	233.1	233.7	234.9	236.3
53°	232.2	230.2	230.3	230.6	231.7	232.9
53.5°	229.2	227.1	227.1	227.4	228.6	229.8
54°	226.0	224.1	224.1	224.4	225.5	226.7
54.5°	222.9	220.9	220.8	221.3	222.3	223.4
55°	219.8	217.8	217.8	218.2	219.3	220.2
55.5°	216.8	214.7	214.7	215.0	216.0	217.2
56°	213.6	211.7	211.6	212.0	212.8	213.9
56.5°	210.5	208.6	208.3	208.6	209.8	210.5
57°	207.2	205.2	205.1	205.4	206.4	207.4
57.5°	204.0	202.1	202.0	202.3	203.1	204.1
58°	200.9	199.0	198.8	199.1	200.0	200.8
58.5°	197.8	195.7	195.6	196.0	196.7	197.5
59°	194.5	192.6	192.5	192.7	193.5	194.3
59.5°	191.4	189.3	189.1	189.3	190.4	190.9
60°	188.1	186.2	185.9	186.2	186.9	187.7
60.5°	185.0	182.9	182.8	182.8	183.6	184.3
61°	181.6	179.7	179.6	179.7	180.4	180.9
61.5°	178.5	176.4	176.2	176.4	177.2	177.7
62°	175.2	173.3	173.1	173.3	173.9	174.4
62.5°	172.0	170.0	169.7	169.9	170.6	171.0
63°	168.7	166.8	166.5	166.8	167.3	167.8
63.5°	165.5	163.5	163.2	163.4	163.9	164.5
64°	162.2	160.3	160.2	160.2	160.8	161.0
64.5°	159.1	157.1	156.9	157.0	157.5	157.8
65°	155.7	153.9	153.6	153.8	154.2	154.5
65.5°	152.7	150.6	150.4	150.4	151.0	151.2
66°	149.5	147.5	147.2	147.2	147.8	147.9
66.5°	146.2	144.1	143.9	144.0	144.4	144.7
67°	143.0	141.3	141.0	140.9	141.3	141.4

TEST NUMBER: P855593  
 CATALOG NUMBER: HLS9129FS1EWH-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	139.9	138.0	137.7	137.7	138.1	138.2
68°	136.7	134.9	134.5	134.6	134.9	135.1
68.5°	133.6	131.7	131.4	131.5	131.7	131.9
69°	130.5	128.6	128.3	128.4	128.7	128.6
69.5°	127.4	125.5	125.1	125.1	125.4	125.4
70°	124.2	122.5	122.3	122.2	122.4	122.4
70.5°	121.2	119.4	119.1	119.1	119.3	119.2
71°	118.2	116.4	116.1	116.2	116.4	116.2
71.5°	115.2	113.4	113.1	113.1	113.3	113.2
72°	112.2	110.5	110.2	110.0	110.2	110.1
72.5°	109.2	107.5	107.0	107.1	107.2	107.0
73°	106.2	104.5	104.2	104.2	104.3	104.0
73.5°	103.4	101.7	101.4	101.4	101.5	101.2
74°	100.5	98.9	98.6	98.6	98.6	98.3
74.5°	97.6	96.0	95.7	95.7	95.7	95.4
75°	94.9	93.2	92.9	92.9	92.9	92.6
75.5°	92.1	90.4	90.1	90.1	90.1	89.8
76°	89.3	87.8	87.4	87.4	87.3	87.0
76.5°	86.5	85.1	84.8	84.7	84.7	84.2
77°	84.0	82.4	82.2	82.1	82.0	81.5
77.5°	81.4	79.8	79.6	79.5	79.4	79.0
78°	78.8	77.2	77.0	76.9	76.8	76.4
78.5°	76.2	74.7	74.4	74.3	74.3	73.7
79°	73.6	72.2	71.9	71.8	71.7	71.1
79.5°	71.1	69.6	69.4	69.3	69.2	68.7
80°	68.6	67.2	67.0	66.9	66.8	66.2
80.5°	66.2	64.9	64.7	64.7	64.5	64.0
81°	63.9	62.6	62.4	62.3	62.2	61.5
81.5°	61.5	60.2	60.0	59.9	59.8	59.2
82°	59.1	57.9	57.8	57.7	57.6	56.9
82.5°	56.8	55.7	55.6	55.5	55.3	54.7
83°	54.7	53.5	53.4	53.3	53.1	52.4
83.5°	52.4	51.3	51.3	51.2	51.0	50.3
84°	50.3	49.2	49.2	49.1	48.9	48.2
84.5°	48.2	47.3	47.3	47.2	47.0	46.2
85°	46.3	45.2	45.2	45.1	44.9	44.2
85.5°	44.2	43.3	43.3	43.2	42.9	42.2
86°	42.3	41.3	41.4	41.3	41.0	40.2
86.5°	40.3	39.4	39.5	39.4	39.1	38.3
87°	38.4	37.6	37.6	37.6	37.3	36.5
87.5°	36.6	35.9	35.9	35.8	35.5	35.0
88°	34.8	34.2	34.3	34.2	33.9	33.2
88.5°	33.1	32.6	32.6	32.5	32.2	31.5
89°	31.4	31.0	31.0	30.9	30.6	29.8
89.5°	29.7	29.3	29.4	29.3	28.9	28.1

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

  
NVLAP Lab Code: 200050-0



TEST NUMBER: P855593  
CATALOG NUMBER: HLS9129FS1EWH-2700K

**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)