

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: P855601

Luminaire Tested: **HLSMS9129FS1EWH-4000K**

Issue Date: 7/16/2024

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P855601
 Test Lab:
 Issue Date: 7/16/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: HLSMS9129FS1EWH-4000K
 Description: 9IN 1200LM, 90CRI, DIMMING TO 10%, DAMP LOCATION, WITH MOTION SENSOR
 Light Source: SELECTABLE CCT 90CRI / 4000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: 1294.2 (1 lamp)
 Luminaire Lumens: 1305.0 lumens
 Efficiency: 100.8%
 Efficacy: 81.6 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

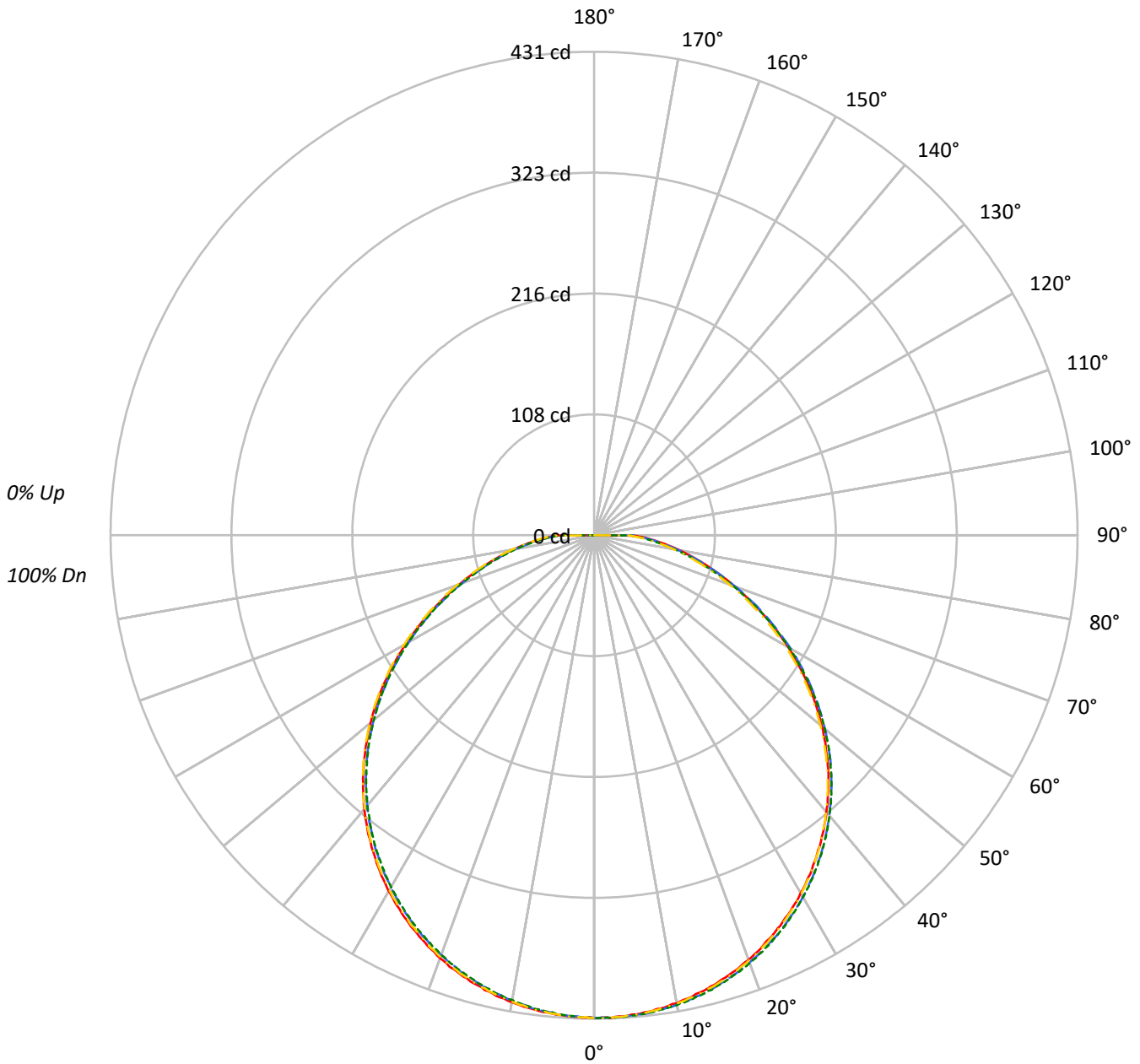
Input Watts (W): 16
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



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	120	120	120	120	117	117	117	117	112	112	112	107	107	107	103	103	103	101				101
1	108	103	98	94	106	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	96	87	81	75	84	78	73	80	76	71	77	73	70	68				68
3	89	78	70	63	87	77	69	62	74	67	61	71	65	60	68	63	59	57				57
4	82	69	60	53	79	68	59	52	65	58	52	63	56	51	61	55	50	48				48
5	75	62	52	45	73	61	52	45	58	51	45	56	49	44	54	48	44	41				41
6	69	55	46	40	67	54	46	39	53	45	39	51	44	39	49	43	38	36				36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	39	34	32				32
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28				28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27	25				25
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23				23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10486	10486	10486	10486
5°	10487	10507	10473	10443
10°	10485	10522	10463	10406
15°	10465	10521	10435	10367
20°	10444	10516	10405	10319
25°	10404	10501	10358	10259
30°	10362	10480	10303	10184
35°	10315	10443	10226	10095
40°	10248	10385	10130	9997
45°	10168	10303	10006	9868
50°	10056	10177	9851	9722
55°	9910	10012	9668	9532
60°	9741	9799	9449	9307
65°	9570	9559	9224	9092
70°	9517	9382	9090	8940
75°	9781	9451	9273	9056
80°	10888	10313	10257	9878
85°	15264	14033	14229	13474

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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	40.7	3.1	3.1
10°-20°	116.9	9.0	9.0
20°-30°	178.0	13.6	13.8
30°-40°	215.9	16.5	16.7
40°-50°	225.6	17.3	17.4
50°-60°	205.7	15.8	15.9
60°-70°	160.9	12.3	12.4
70°-80°	105.9	8.1	8.2
80°-90°	55.3	4.2	4.3
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°	335.6	25.7	25.9
0°-40°	551.6	42.3	42.6
0°-60°	982.9	75.3	75.9
0°-90°	1305.0	100.0	100.8
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°	1305.0	100.0	100.8

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	430	430	430	430	430	
5°	429	430	428	427	429	41
15°	415	417	414	411	415	117
25°	387	391	385	382	387	178
35°	347	351	344	339	347	217
45°	295	299	290	286	295	227
55°	233	236	228	224	233	208
65°	166	166	160	158	166	165
75°	104	100	98	96	104	110
85°	55	50	51	48	55	59
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°	430.4	430.4	430.4	430.4	430.4	430.4	430.4	430.4	430.4	430.4	430.4
0.5°	430.6	430.7	430.3	430.8	430.3	430.0	430.1	430.7	429.7	430.5	429.9
1°	430.0	430.8	429.9	430.6	430.4	430.6	430.6	430.4	430.1	430.5	429.9
1.5°	430.0	430.4	430.6	430.6	430.1	429.8	430.1	430.1	430.3	429.9	430.1
2°	430.5	430.3	430.4	430.9	430.5	430.4	430.1	430.7	429.6	430.0	429.1
2.5°	429.7	430.6	429.9	430.6	430.5	430.0	430.1	430.0	429.5	429.8	429.4
3°	429.4	430.3	430.3	430.3	429.7	429.8	429.9	429.6	429.6	429.5	429.3
3.5°	429.7	429.8	430.0	430.7	430.5	429.9	429.9	430.0	429.0	429.2	428.6
4°	429.4	429.8	429.5	430.6	429.6	429.7	429.3	429.5	428.7	429.0	428.2
4.5°	428.6	429.9	429.8	429.9	429.6	429.6	429.1	428.8	428.8	428.7	428.4
5°	428.8	429.0	429.5	429.6	429.6	429.6	429.2	428.9	428.2	428.1	427.2
5.5°	428.4	428.6	428.9	429.9	429.0	428.7	428.5	428.4	427.5	427.6	427.0
6°	427.7	428.6	429.1	429.3	429.0	428.9	428.4	427.9	427.6	427.3	426.8
6.5°	427.5	428.4	428.7	428.8	428.5	428.6	427.7	427.9	427.1	427.1	426.0
7°	427.2	427.6	427.8	428.8	428.3	427.8	427.3	427.0	426.4	426.1	425.3
7.5°	426.0	427.3	427.7	428.6	427.8	427.7	426.9	426.2	425.7	425.7	425.3
8°	426.0	426.9	427.5	427.5	427.1	427.1	426.3	426.4	425.4	425.4	424.2
8.5°	425.6	426.0	426.7	427.0	427.1	426.2	426.0	425.6	425.0	424.7	423.2
9°	424.7	425.3	425.9	426.9	426.1	426.4	425.0	424.7	424.0	423.3	422.9
9.5°	423.7	425.1	425.8	426.1	425.9	425.4	424.8	424.3	423.4	422.9	422.4
10°	423.8	424.5	425.0	425.5	425.3	425.1	424.1	423.7	422.9	422.6	421.0
10.5°	422.6	423.8	424.0	425.2	424.3	424.3	423.2	422.6	422.1	421.6	420.5
11°	421.7	422.7	423.7	424.3	424.1	423.4	422.7	422.2	420.7	420.4	419.8
11.5°	421.2	422.4	423.3	423.3	423.2	423.1	421.5	421.4	420.4	420.0	418.3
12°	420.4	421.5	422.0	422.9	422.7	422.1	421.0	420.4	419.8	418.9	417.7
12.5°	418.9	420.5	421.1	422.4	421.3	421.4	420.1	419.5	418.4	417.9	417.2
13°	418.5	419.6	420.8	421.2	421.0	420.6	419.2	418.9	417.5	416.9	415.6
13.5°	417.8	419.0	419.8	420.4	420.3	419.6	418.6	417.4	417.0	416.2	414.7
14°	416.7	417.8	418.5	419.8	418.8	419.0	417.0	416.7	415.3	415.1	414.1
14.5°	415.4	416.7	418.0	418.7	418.6	418.0	416.7	415.7	414.5	413.9	412.6
15°	414.9	416.1	417.1	417.7	417.1	417.1	415.5	414.7	413.7	412.7	411.4
15.5°	413.7	415.1	415.6	416.6	416.1	416.2	414.4	413.4	412.8	412.0	410.6
16°	412.2	413.5	414.9	415.8	415.4	414.7	413.3	412.8	411.0	410.5	409.2
16.5°	411.4	412.5	414.2	414.6	414.3	414.0	411.9	411.0	410.4	409.2	407.8
17°	410.2	412.0	412.5	413.4	413.3	413.0	411.2	410.1	409.1	408.1	406.9
17.5°	408.9	410.4	411.3	412.5	411.9	411.5	409.7	409.1	407.5	406.9	405.5
18°	407.9	409.0	410.5	411.4	410.7	410.7	408.7	407.8	406.4	405.5	403.6
18.5°	406.8	408.2	409.1	409.8	409.8	409.2	407.4	406.1	405.7	404.2	402.9
19°	405.0	406.6	407.8	408.7	408.2	408.1	405.9	405.5	403.7	403.1	401.4
19.5°	403.8	405.0	406.8	407.8	407.3	406.9	405.0	403.6	402.4	401.2	399.5
20°	402.8	404.2	405.5	406.4	405.6	405.4	403.3	402.2	401.3	399.6	398.4
20.5°	401.4	402.8	403.7	404.8	404.4	404.3	402.1	400.9	399.9	398.6	396.9
21°	399.8	400.9	402.7	403.6	403.4	402.8	400.6	399.6	397.7	396.9	395.0
21.5°	398.6	400.0	401.3	402.2	401.6	401.1	399.0	397.6	396.6	395.2	393.9
22°	397.1	398.5	399.5	400.4	400.5	400.3	397.7	396.5	395.3	393.9	392.3

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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°	395.3	396.7	398.2	399.4	398.5	398.3	396.0	395.2	393.3	392.4	390.2
23°	393.3	395.2	396.9	397.9	397.3	397.1	394.8	393.1	391.8	390.3	389.0
23.5°	392.2	394.0	395.1	395.9	396.0	395.3	392.8	391.5	390.3	389.1	387.4
24°	390.7	392.1	393.5	394.7	394.0	393.6	391.2	390.3	388.3	387.5	385.1
24.5°	388.8	390.3	392.2	393.4	392.8	392.4	389.9	388.1	386.8	385.3	383.7
25°	387.0	389.0	390.4	391.2	390.6	390.4	387.7	386.7	385.3	383.6	382.2
25.5°	385.7	387.5	388.5	389.6	389.3	388.9	386.4	385.1	383.3	382.3	379.9
26°	383.6	385.2	387.3	388.2	387.8	387.3	384.3	382.8	381.4	379.9	378.2
26.5°	381.7	383.8	385.4	386.4	385.6	384.9	382.7	381.2	379.9	378.1	376.6
27°	380.1	382.1	383.3	384.4	384.2	383.8	380.7	379.7	378.0	376.5	374.4
27.5°	378.5	379.9	381.7	383.0	381.9	381.8	379.1	377.1	375.6	374.7	372.3
28°	376.2	378.1	379.9	381.1	380.3	379.8	376.9	375.4	374.1	372.4	370.9
28.5°	374.3	376.6	378.0	378.6	378.6	378.2	375.0	373.7	372.3	370.6	368.6
29°	372.8	374.3	376.2	377.0	376.5	376.0	373.4	371.3	370.0	368.8	366.3
29.5°	370.7	372.3	374.3	375.4	374.5	374.2	371.1	369.5	367.9	366.4	364.5
30°	368.3	370.6	372.0	373.2	372.5	371.9	369.2	367.8	366.2	364.1	362.6
30.5°	366.6	368.6	370.3	371.1	370.6	370.3	367.1	365.2	364.0	362.4	359.9
31°	364.7	366.2	368.2	369.4	368.4	368.0	364.9	363.1	361.7	360.2	358.1
31.5°	362.3	364.6	366.0	367.0	366.7	365.8	362.8	361.5	359.6	357.9	356.1
32°	360.0	362.4	363.9	364.8	364.2	364.1	360.6	359.1	357.7	355.9	353.8
32.5°	358.4	359.9	362.2	362.9	362.3	361.6	358.9	356.4	355.3	353.8	351.3
33°	356.1	357.7	359.6	360.9	360.2	359.6	356.0	354.7	353.0	351.3	349.6
33.5°	353.5	355.9	357.6	358.2	357.8	357.1	354.2	352.5	350.9	348.8	346.9
34°	351.4	353.4	355.3	356.3	355.9	355.0	351.8	349.7	348.4	346.7	344.5
34.5°	349.4	351.0	353.0	354.2	353.2	353.0	349.2	347.7	345.9	344.7	342.3
35°	346.8	349.2	350.7	351.6	351.1	350.4	347.1	345.7	343.8	342.2	340.2
35.5°	344.3	346.5	348.7	349.1	348.9	348.4	344.8	342.7	341.6	339.6	337.4
36°	342.5	344.0	345.9	347.0	346.4	345.7	342.3	340.5	338.8	337.3	335.1
36.5°	339.9	342.0	343.6	344.7	344.2	343.2	340.0	338.3	336.4	334.8	332.8
37°	337.2	339.6	341.3	342.1	341.3	341.2	337.2	335.5	334.3	332.1	330.1
37.5°	335.0	337.0	339.0	339.8	339.3	338.2	335.1	332.9	331.6	329.6	327.3
38°	332.6	334.8	336.3	337.5	336.8	336.2	332.1	330.9	328.8	327.5	325.2
38.5°	329.7	332.1	334.1	334.7	334.2	333.2	329.9	328.0	326.5	324.6	322.7
39°	327.5	329.3	331.2	332.0	331.8	330.9	327.3	325.2	324.1	321.8	319.8
39.5°	325.2	327.0	328.7	329.9	328.9	328.4	324.3	323.0	321.1	319.4	317.3
40°	322.2	324.6	326.3	327.2	326.5	325.8	322.0	320.3	318.5	316.9	314.8
40.5°	319.6	321.6	323.5	324.5	323.7	323.2	319.1	317.3	316.1	313.8	311.8
41°	317.3	319.1	320.7	321.9	321.2	320.2	316.4	314.9	313.1	311.3	309.2
41.5°	314.4	316.9	318.5	319.1	318.5	317.8	313.9	312.3	310.2	308.8	306.7
42°	311.7	313.7	315.5	316.1	315.6	315.1	311.0	309.0	307.7	305.8	303.8
42.5°	309.2	310.9	312.6	313.6	313.1	312.1	308.4	306.5	304.9	303.1	300.9
43°	306.5	308.6	310.3	311.1	310.1	309.6	305.4	303.8	301.8	300.5	298.3
43.5°	303.2	305.6	307.4	308.1	307.4	306.5	302.6	300.7	299.2	297.2	295.4
44°	300.7	302.6	304.3	305.2	304.7	304.0	299.9	297.8	296.4	294.4	292.3
44.5°	298.0	300.1	301.8	302.5	301.6	300.9	296.7	295.3	293.2	291.8	289.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	295.1	297.3	298.9	299.4	299.0	298.2	294.0	291.8	290.4	288.8	287.1
45.5°	292.0	294.1	295.9	296.6	295.8	295.2	290.9	289.2	287.8	285.6	283.7
46°	289.4	291.0	293.1	293.9	293.0	292.0	287.8	286.2	284.5	282.9	280.7
46.5°	286.2	288.6	290.3	290.7	289.9	289.5	285.2	283.0	281.5	279.9	278.1
47°	283.2	285.5	287.0	287.8	286.9	286.1	281.8	280.1	278.7	276.7	274.8
47.5°	280.2	282.5	284.1	285.0	284.0	283.2	279.0	277.3	275.6	273.8	271.6
48°	277.5	279.4	281.2	281.8	281.1	280.1	275.7	273.8	272.2	271.0	268.9
48.5°	274.1	276.7	277.9	278.6	277.7	276.9	272.8	271.0	269.4	267.7	265.9
49°	271.2	273.3	274.8	275.7	274.7	274.1	269.8	268.0	266.4	264.6	262.6
49.5°	268.4	270.3	271.9	272.7	271.4	271.1	266.3	264.7	263.3	261.6	259.6
50°	265.3	267.3	268.8	269.4	268.5	267.9	263.3	261.6	259.9	258.5	256.6
50.5°	261.9	264.4	265.5	266.2	265.1	264.4	259.9	258.5	257.0	255.1	253.3
51°	258.9	260.8	262.7	263.0	262.1	261.5	256.8	255.1	253.9	252.0	250.1
51.5°	255.8	257.9	259.3	259.7	258.6	258.4	253.9	252.0	250.6	248.9	247.1
52°	252.7	254.8	256.0	256.6	255.4	254.8	250.3	248.9	247.0	245.7	243.9
52.5°	249.3	251.6	252.9	253.5	252.3	251.8	247.2	245.5	244.0	242.4	240.4
53°	246.3	248.0	249.8	250.0	249.0	248.3	243.6	242.3	240.9	239.2	237.4
53.5°	243.2	245.1	246.2	246.7	245.8	245.2	240.5	239.0	237.6	236.0	234.2
54°	239.6	241.8	243.1	243.6	242.3	241.8	237.4	235.5	234.1	232.6	230.6
54.5°	236.3	238.5	239.9	240.1	238.9	238.5	233.7	232.3	231.1	229.1	227.6
55°	233.3	235.0	236.3	236.7	235.7	235.0	230.5	229.1	227.6	226.3	224.4
55.5°	230.1	232.0	233.0	233.5	232.1	231.4	227.0	225.8	224.1	222.9	221.0
56°	226.5	228.6	229.9	230.0	228.9	228.5	223.7	222.2	220.8	219.3	217.7
56.5°	223.5	225.1	226.3	226.6	225.3	224.7	220.5	218.9	217.8	216.0	214.6
57°	220.0	221.9	223.0	223.4	221.8	221.4	216.8	215.3	214.0	212.8	210.9
57.5°	216.5	218.6	219.6	219.8	218.5	218.0	213.5	212.2	210.7	209.3	207.7
58°	213.2	214.9	216.1	216.1	215.0	214.3	210.0	208.8	207.5	205.9	204.5
58.5°	210.1	211.9	212.6	212.9	211.4	211.2	206.5	205.3	204.1	202.6	201.1
59°	206.7	208.5	209.4	209.5	208.0	207.8	203.4	201.8	200.4	199.4	197.6
59.5°	203.1	205.0	205.8	205.9	204.4	204.3	199.5	198.6	197.1	195.7	194.4
60°	199.9	201.5	202.3	202.4	201.1	200.7	196.3	194.9	193.9	192.5	190.8
60.5°	196.6	198.3	199.1	199.1	197.4	197.1	192.7	191.6	190.4	189.1	187.6
61°	193.1	194.6	195.4	195.3	194.0	193.8	189.3	188.2	186.9	185.7	184.4
61.5°	189.7	191.2	191.9	191.9	190.4	190.1	185.8	184.8	183.6	182.2	180.8
62°	186.4	188.0	188.6	188.5	186.9	186.6	182.3	181.3	180.2	179.1	177.5
62.5°	183.1	184.6	185.1	184.8	183.5	183.0	178.9	178.0	176.7	175.5	174.3
63°	179.5	180.9	181.6	181.4	180.0	179.5	175.3	174.4	173.4	172.1	170.8
63.5°	176.3	177.7	178.2	178.0	176.3	176.3	171.8	171.1	170.0	168.9	167.5
64°	173.0	174.4	174.6	174.3	172.8	172.6	168.6	167.7	166.6	165.6	164.2
64.5°	169.5	170.8	171.2	170.8	169.2	169.2	165.0	164.2	163.2	162.2	160.8
65°	166.0	167.3	167.9	167.5	165.8	165.6	161.6	160.9	160.0	158.8	157.6
65.5°	162.9	164.3	164.3	163.9	162.2	162.4	158.2	157.6	156.6	155.5	154.4
66°	159.6	160.8	160.9	160.4	158.8	158.9	154.8	154.0	153.2	152.3	150.9
66.5°	156.2	157.4	157.7	157.1	155.3	155.4	151.5	150.9	150.1	149.0	147.5
67°	153.0	154.0	154.1	153.6	151.8	152.0	148.2	147.6	146.9	145.8	144.6

TEST NUMBER: P855601
 CATALOG NUMBER: HLSMS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	149.8	150.9	150.7	149.9	148.6	148.6	144.8	144.2	143.5	142.6	141.3
68°	146.3	147.4	147.4	146.8	145.0	145.1	141.4	141.0	140.3	139.2	137.9
68.5°	143.2	144.3	144.1	143.4	141.5	141.8	138.2	137.8	137.2	135.9	134.8
69°	140.1	141.0	140.8	139.9	138.4	138.4	135.0	134.5	133.9	132.9	131.7
69.5°	137.0	137.7	137.6	136.7	134.9	135.0	131.6	131.3	130.7	129.8	128.4
70°	133.6	134.5	134.1	133.3	131.7	131.8	128.5	128.3	127.6	126.6	125.3
70.5°	130.6	131.3	130.9	129.9	128.3	128.7	125.3	125.1	124.7	123.6	122.3
71°	127.5	128.2	127.8	126.8	125.1	125.2	122.1	122.1	121.6	120.6	119.2
71.5°	124.4	125.1	124.6	123.6	121.9	122.2	119.1	119.1	118.5	117.5	116.2
72°	121.3	122.0	121.4	120.5	118.7	118.9	116.0	115.9	115.6	114.4	113.3
72.5°	118.4	119.0	118.4	117.2	115.6	115.9	113.0	112.9	112.7	111.5	110.2
73°	115.4	115.9	115.3	114.2	112.3	112.8	109.9	110.1	109.7	108.7	107.2
73.5°	112.4	112.9	112.2	111.0	109.4	109.8	107.1	107.3	106.9	105.8	104.6
74°	109.6	110.0	109.2	108.0	106.3	106.8	104.2	104.3	104.2	103.0	101.8
74.5°	106.8	107.1	106.2	105.2	103.2	103.9	101.3	101.6	101.4	100.2	98.9
75°	103.9	104.2	103.3	102.2	100.4	100.9	98.5	98.7	98.5	97.5	96.2
75.5°	101.1	101.4	100.4	99.3	97.5	98.0	95.7	96.0	95.9	94.7	93.5
76°	98.5	98.7	97.7	96.5	94.7	95.1	92.9	93.3	93.3	92.1	90.7
76.5°	95.6	95.9	94.7	93.7	91.9	92.4	90.3	90.7	90.6	89.5	88.2
77°	92.9	93.1	92.1	90.7	89.1	89.5	87.6	88.1	88.1	87.0	85.7
77.5°	90.4	90.5	89.4	88.1	86.5	86.8	85.0	85.5	85.5	84.6	83.2
78°	87.8	87.8	86.6	85.5	83.8	84.2	82.4	83.0	83.0	82.0	80.6
78.5°	85.1	85.2	84.1	82.8	81.1	81.5	79.8	80.4	80.5	79.5	78.1
79°	82.6	82.5	81.5	80.1	78.5	78.9	77.2	77.8	78.0	77.0	75.5
79.5°	80.1	80.0	78.7	77.6	75.9	76.4	74.6	75.3	75.5	74.6	73.0
80°	77.6	77.3	76.4	74.9	73.5	73.9	72.1	72.9	73.1	72.3	70.8
80.5°	75.2	75.0	73.9	72.4	71.0	71.4	69.6	70.6	70.7	69.8	68.4
81°	72.7	72.5	71.4	70.1	68.5	69.0	67.2	68.1	68.4	67.4	66.0
81.5°	70.2	70.0	69.0	67.6	66.1	66.6	64.9	65.8	66.1	65.3	63.8
82°	68.0	67.6	66.6	65.2	63.7	64.0	62.5	63.5	63.8	62.9	61.5
82.5°	65.7	65.4	64.1	62.9	61.3	61.7	60.3	61.1	61.5	60.7	59.1
83°	63.3	63.0	61.8	60.6	59.1	59.4	58.0	58.9	59.3	58.5	57.1
83.5°	61.0	60.7	59.6	58.2	56.8	57.2	55.7	56.8	57.2	56.4	54.9
84°	58.8	58.4	57.3	56.0	54.6	54.9	53.5	54.6	55.0	54.3	52.8
84.5°	56.6	56.2	55.1	53.8	52.4	52.6	51.4	52.4	52.9	52.2	50.7
85°	54.6	54.0	53.0	51.7	50.2	50.4	49.2	50.3	50.9	50.2	48.7
85.5°	52.3	51.9	50.8	49.6	48.1	48.3	47.2	48.2	48.8	48.1	46.6
86°	50.2	49.8	48.7	47.5	46.1	46.3	45.1	46.3	46.8	46.2	44.7
86.5°	48.1	47.6	46.7	45.4	44.1	44.3	43.2	44.2	44.9	44.2	42.7
87°	46.2	45.5	44.6	43.5	42.0	42.1	41.1	42.3	43.0	42.3	40.9
87.5°	44.2	43.7	42.6	41.5	40.0	40.3	39.2	40.5	41.0	40.5	39.0
88°	42.2	41.6	40.8	39.5	38.3	38.4	37.4	38.5	39.1	38.7	37.2
88.5°	40.3	39.7	38.8	37.7	36.3	36.4	35.5	36.7	37.4	36.8	35.4
89°	38.4	37.9	36.9	36.0	34.4	34.7	33.7	34.9	35.6	35.1	33.7
89.5°	36.4	36.1	35.3	34.2	32.8	32.8	32.0	33.1	33.8	33.4	32.0

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


NVLAP Lab Code: 200050-0



TEST NUMBER: P855601
CATALOG NUMBER: HLSMS9129FS1EWH-4000K

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: P855601
 CATALOG NUMBER: HLSMS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	430.4	430.4	430.4	430.4	430.4	430.4
0.5°	430.3	430.1	430.0	430.3	430.1	430.6
1°	430.3	429.6	429.6	429.7	430.7	430.0
1.5°	430.3	430.1	429.4	430.1	430.1	430.0
2°	429.7	429.4	429.7	429.7	429.9	430.5
2.5°	429.2	429.1	428.8	429.4	430.0	429.7
3°	429.1	429.1	428.8	429.4	429.8	429.4
3.5°	429.1	428.7	428.8	428.8	429.2	429.7
4°	428.5	428.2	427.8	428.9	429.3	429.4
4.5°	427.8	428.1	427.9	428.3	428.7	428.6
5°	427.8	427.0	427.3	428.2	428.4	428.8
5.5°	427.2	427.1	426.5	427.7	428.3	428.4
6°	426.3	426.5	426.3	426.8	427.7	427.7
6.5°	425.8	425.6	425.7	426.7	427.0	427.5
7°	425.6	425.5	424.9	426.2	426.9	427.2
7.5°	425.0	424.7	424.8	425.4	426.2	426.0
8°	423.9	423.9	423.7	425.2	425.3	426.0
8.5°	423.4	423.4	423.2	423.9	425.1	425.6
9°	422.8	422.5	422.7	423.7	424.3	424.7
9.5°	421.8	422.0	421.5	422.8	423.5	423.7
10°	420.8	420.6	420.9	422.3	423.0	423.8
10.5°	420.4	420.3	420.0	421.4	422.3	422.6
11°	419.5	419.4	418.8	420.4	421.0	421.7
11.5°	418.2	418.2	418.5	419.7	420.5	421.2
12°	417.4	417.8	417.1	418.9	420.0	420.4
12.5°	416.8	416.6	416.5	417.9	418.7	418.9
13°	415.3	415.3	415.7	417.1	417.6	418.5
13.5°	414.4	414.8	414.1	415.5	417.1	417.8
14°	413.2	413.3	413.2	415.2	415.7	416.7
14.5°	412.5	412.4	412.4	413.5	414.8	415.4
15°	410.9	411.0	410.9	412.9	413.8	414.9
15.5°	409.9	409.8	410.0	411.7	412.5	413.7
16°	408.9	408.8	408.9	410.3	411.6	412.2
16.5°	407.4	407.5	407.1	409.4	410.5	411.4
17°	405.9	406.1	406.2	408.4	408.8	410.2
17.5°	404.9	405.2	404.7	406.9	407.9	408.9
18°	403.6	403.3	403.3	405.7	406.8	407.9
18.5°	401.9	402.4	402.2	404.0	405.2	406.8
19°	400.7	400.9	400.5	403.1	404.1	405.0
19.5°	399.4	399.4	399.2	401.3	402.8	403.8
20°	397.6	398.0	397.9	400.2	401.1	402.8
20.5°	396.1	396.3	396.2	398.8	399.8	401.4
21°	394.9	394.8	395.1	396.7	398.5	399.8
21.5°	393.3	393.6	393.2	395.7	396.5	398.6
22°	391.2	391.5	391.3	394.3	395.4	397.1

TEST NUMBER: P855601
 CATALOG NUMBER: HLSMS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	389.8	390.2	390.3	392.4	393.9	395.3
23°	388.3	388.3	388.1	390.8	392.0	393.3
23.5°	386.4	386.7	386.7	389.1	390.2	392.2
24°	384.5	385.2	385.0	387.6	389.1	390.7
24.5°	383.0	383.3	383.0	385.5	387.2	388.8
25°	381.3	381.6	381.2	384.2	385.4	387.0
25.5°	379.1	379.6	379.8	382.4	383.8	385.7
26°	377.4	377.5	377.4	380.1	381.7	383.6
26.5°	375.8	376.2	376.0	378.9	379.9	381.7
27°	373.5	374.0	373.8	376.9	378.6	380.1
27.5°	371.5	371.9	371.9	375.0	376.4	378.5
28°	369.7	370.3	370.1	373.1	374.3	376.2
28.5°	367.9	367.9	368.0	370.9	372.6	374.3
29°	365.4	366.1	366.1	369.2	370.5	372.8
29.5°	363.7	364.0	364.0	366.9	368.4	370.7
30°	361.7	362.0	361.7	365.3	366.8	368.3
30.5°	359.2	359.8	360.0	362.9	364.5	366.6
31°	356.7	357.5	357.4	360.6	362.3	364.7
31.5°	355.3	355.7	355.6	359.0	360.5	362.3
32°	352.6	353.0	353.3	356.5	358.0	360.0
32.5°	350.5	351.1	350.9	354.4	355.9	358.4
33°	348.3	348.8	349.0	352.3	353.9	356.1
33.5°	346.0	346.3	346.4	349.7	351.5	353.5
34°	343.2	344.1	344.2	347.8	349.3	351.4
34.5°	341.3	342.0	342.0	345.3	347.0	349.4
35°	339.1	339.4	339.4	343.3	344.5	346.8
35.5°	336.6	337.2	337.1	340.3	342.5	344.3
36°	333.9	334.4	334.6	338.3	340.0	342.5
36.5°	331.8	332.3	332.1	336.0	337.3	339.9
37°	328.9	329.7	329.8	333.2	335.4	337.2
37.5°	326.4	327.2	327.1	331.1	332.6	335.0
38°	323.9	324.6	324.6	328.5	330.0	332.6
38.5°	321.6	321.8	322.4	325.9	327.9	329.7
39°	318.6	319.4	319.2	323.4	325.2	327.5
39.5°	316.3	316.9	317.1	320.8	322.4	325.2
40°	313.6	314.3	314.3	318.4	320.2	322.2
40.5°	310.6	311.7	311.5	315.4	317.4	319.6
41°	308.0	308.7	309.0	312.9	314.5	317.3
41.5°	305.5	306.2	306.3	310.3	312.1	314.4
42°	302.5	303.5	303.5	307.3	309.4	311.7
42.5°	299.8	300.7	300.9	305.0	306.3	309.2
43°	297.1	298.0	297.7	302.0	304.0	306.5
43.5°	294.2	294.9	295.4	299.1	301.2	303.2
44°	291.2	292.3	292.4	296.5	298.0	300.7
44.5°	288.6	289.3	289.7	293.5	295.5	298.0

TEST NUMBER: P855601
 CATALOG NUMBER: HLSMS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	285.7	286.4	286.6	291.0	292.7	295.1
45.5°	282.7	283.7	283.7	287.8	289.6	292.0
46°	279.6	280.5	280.6	284.9	286.9	289.4
46.5°	277.0	277.7	277.9	282.2	284.2	286.2
47°	273.8	274.8	274.6	279.1	280.6	283.2
47.5°	270.8	271.6	272.0	276.4	278.1	280.2
48°	267.8	268.7	268.7	273.2	275.1	277.5
48.5°	265.0	265.4	265.6	270.0	272.0	274.1
49°	261.7	262.6	263.0	267.4	268.9	271.2
49.5°	258.6	259.4	259.6	263.9	266.2	268.4
50°	255.4	256.5	256.6	261.1	262.8	265.3
50.5°	252.2	253.2	253.5	257.8	259.7	261.9
51°	249.1	249.9	250.3	254.7	256.7	258.9
51.5°	246.3	247.1	247.2	251.8	253.7	255.8
52°	242.8	243.8	243.8	248.6	250.1	252.7
52.5°	239.6	240.8	241.0	245.5	247.4	249.3
53°	236.6	237.4	237.7	242.0	244.1	246.3
53.5°	233.2	234.2	234.4	238.8	240.7	243.2
54°	229.9	230.8	231.5	235.7	237.7	239.6
54.5°	226.9	227.6	227.9	232.4	234.5	236.3
55°	223.5	224.4	224.7	229.4	230.9	233.3
55.5°	220.1	221.0	221.4	225.8	228.0	230.1
56°	216.9	217.9	218.1	222.5	224.6	226.5
56.5°	213.5	214.5	214.9	219.3	221.2	223.5
57°	210.0	211.1	211.4	216.0	218.1	220.0
57.5°	206.9	207.9	208.1	212.7	214.8	216.5
58°	203.7	204.4	204.8	209.2	211.1	213.2
58.5°	200.0	201.3	201.3	206.0	208.1	210.1
59°	196.8	197.7	198.2	202.5	204.8	206.7
59.5°	193.6	194.5	194.7	199.3	201.3	203.1
60°	190.1	191.0	191.4	196.1	198.0	199.9
60.5°	186.8	187.8	188.1	192.5	194.7	196.6
61°	183.5	184.4	184.5	189.2	191.1	193.1
61.5°	180.1	180.9	181.4	185.9	187.8	189.7
62°	176.6	177.7	177.9	182.3	184.6	186.4
62.5°	173.4	174.2	174.7	179.1	181.3	183.1
63°	170.0	171.0	171.3	175.6	177.5	179.5
63.5°	166.5	167.6	167.8	172.4	174.5	176.3
64°	163.3	164.2	164.4	168.9	171.0	173.0
64.5°	160.1	160.8	161.1	165.7	167.7	169.5
65°	156.7	157.7	157.7	162.4	164.4	166.0
65.5°	153.2	154.4	154.6	158.9	161.2	162.9
66°	150.1	151.1	151.2	155.7	157.5	159.6
66.5°	147.0	147.8	147.8	152.5	154.6	156.2
67°	143.6	144.4	144.6	149.1	151.3	153.0

TEST NUMBER: P855601
 CATALOG NUMBER: HLSMS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	140.4	141.3	141.3	146.0	147.9	149.8
68°	137.2	138.1	138.3	142.8	144.6	146.3
68.5°	134.0	134.9	135.1	139.4	141.7	143.2
69°	130.8	131.7	131.9	136.3	138.3	140.1
69.5°	127.8	128.4	128.8	133.1	135.2	137.0
70°	124.7	125.5	125.6	130.1	132.2	133.6
70.5°	121.6	122.2	122.5	126.8	129.1	130.6
71°	118.5	119.3	119.4	123.9	125.8	127.5
71.5°	115.6	116.3	116.4	120.8	122.9	124.4
72°	112.5	113.2	113.5	117.7	119.8	121.3
72.5°	109.6	110.3	110.5	114.9	116.8	118.4
73°	106.6	107.4	107.6	111.7	113.9	115.4
73.5°	103.9	104.6	104.7	108.9	111.0	112.4
74°	100.9	101.6	102.0	106.0	108.1	109.6
74.5°	98.1	98.9	99.2	103.2	105.4	106.8
75°	95.5	96.2	96.4	100.4	102.5	103.9
75.5°	92.6	93.4	93.8	97.6	99.8	101.1
76°	90.1	90.8	91.0	95.1	97.1	98.5
76.5°	87.5	88.1	88.4	92.4	94.3	95.6
77°	84.9	85.5	85.9	89.7	91.7	92.9
77.5°	82.3	82.8	83.2	87.3	89.2	90.4
78°	79.7	80.3	80.8	84.6	86.5	87.8
78.5°	77.2	77.8	78.2	82.1	83.9	85.1
79°	74.7	75.3	75.7	79.6	81.4	82.6
79.5°	72.2	72.8	73.4	77.1	79.0	80.1
80°	69.7	70.4	70.9	74.7	76.6	77.6
80.5°	67.4	68.2	68.6	72.2	74.1	75.2
81°	65.2	65.8	66.2	69.9	71.8	72.7
81.5°	62.8	63.3	64.0	67.6	69.3	70.2
82°	60.5	61.1	61.7	65.3	67.0	68.0
82.5°	58.2	58.9	59.4	63.1	64.7	65.7
83°	56.0	56.6	57.3	60.8	62.6	63.3
83.5°	53.8	54.5	55.1	58.7	60.3	61.0
84°	51.8	52.4	53.1	56.4	58.1	58.8
84.5°	49.6	50.3	51.0	54.4	56.0	56.6
85°	47.6	48.2	49.0	52.4	53.8	54.6
85.5°	45.5	46.2	47.0	50.2	51.8	52.3
86°	43.6	44.2	45.0	48.3	49.8	50.2
86.5°	41.6	42.2	43.1	46.3	47.7	48.1
87°	39.7	40.4	41.2	44.4	45.8	46.2
87.5°	38.0	38.5	39.3	42.4	43.9	44.2
88°	36.1	36.5	37.6	40.6	41.9	42.2
88.5°	34.2	34.9	35.9	38.8	40.0	40.3
89°	32.6	33.2	34.2	37.0	38.2	38.4
89.5°	30.8	31.5	32.6	35.4	36.9	36.4

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



TEST NUMBER: P855601
CATALOG NUMBER: HLSMS9129FS1EWH-4000K

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)