

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: P855596

Luminaire Tested: **HLS9129FS1EWH-4000K**

Issue Date: 7/16/2024

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P855596
 Test Lab:
 Issue Date: 7/16/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: HALO
 Catalog Number: HLS9129FS1EWH-4000K
 Description: 9IN 1200LM, 90CRI, DIMMING TO 10%, DAMP LOCATION
 Light Source: SELECTABLE CCT 90CRI / 4000K CCT
 Ballast/Driver: -

Summary

Lumens per Lamp: 1287.7 (1 lamp)
 Luminaire Lumens: 1325.0 lumens
 Efficiency: 102.9%
 Efficacy: 80.3 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

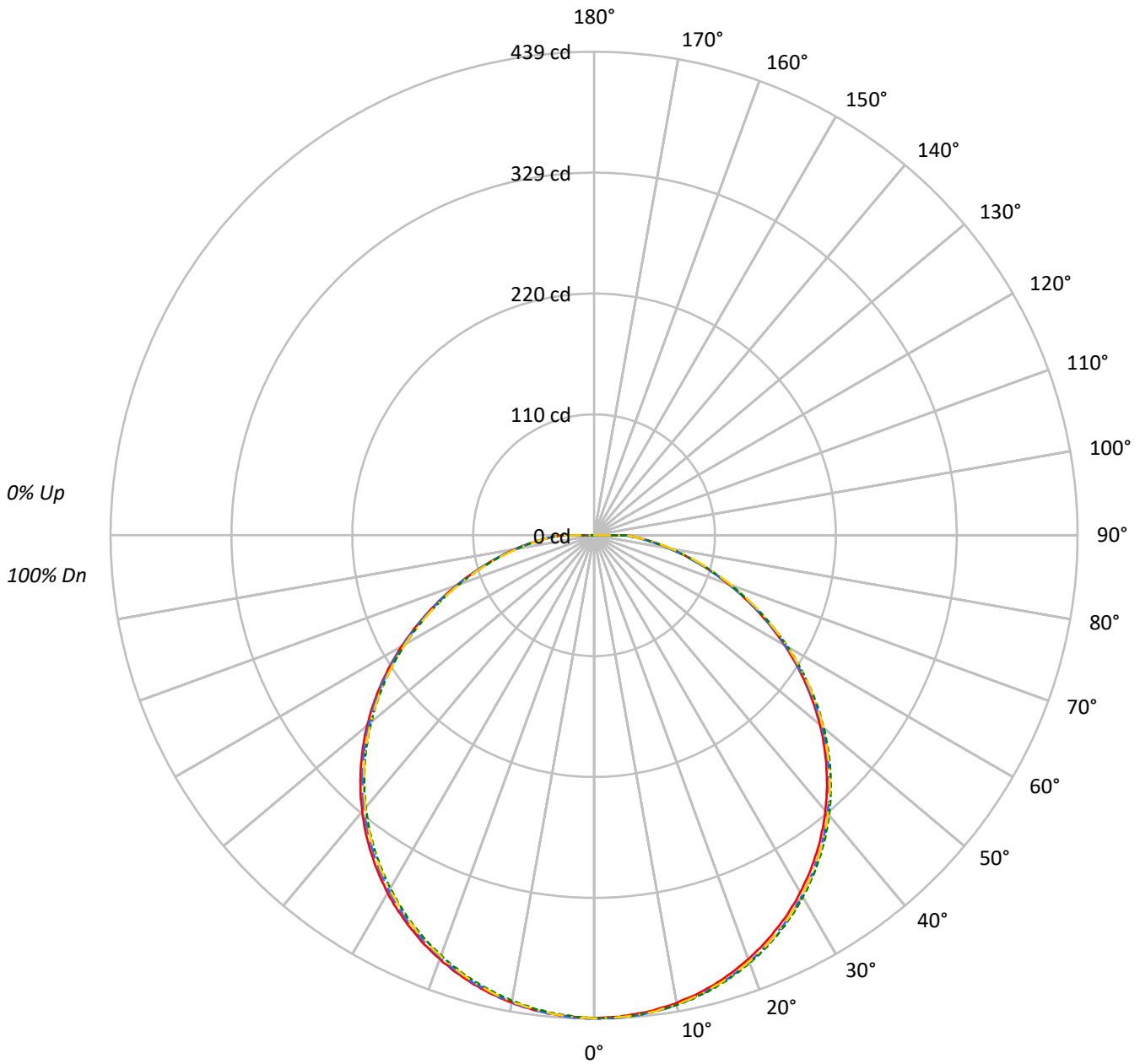
Input Watts (W): 16.5
 Input Voltage (V): NR
 Input Current (Ain): NR
 Voltage Rise (V): NR
 Power Factor: NR
 Total Harmonic Distortion (THDi): NR
 Frequency (hertz): 60
 Stabilization Time: NR
 Operation Time: NR
 Ambient Temperature (°C): NR
 Test Distance: 25 FT



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	50	30	10	0		
RCR																										
0	122	122	122	122	120	120	120	120	114	114	114	109	109	109	105	105	105	103								
1	111	105	101	96	108	103	99	95	99	95	92	95	92	89	91	88	86	84								
2	100	91	84	78	98	89	83	77	86	80	75	82	77	73	79	75	72	69								
3	91	80	71	64	89	78	70	64	75	68	62	72	66	61	70	65	60	58								
4	84	71	61	54	81	69	61	54	67	59	53	64	58	52	62	56	52	49								
5	77	63	54	47	75	62	53	46	60	52	46	58	51	45	56	50	45	42								
6	71	57	47	41	69	56	47	40	54	46	40	52	45	40	50	44	39	37								
7	66	51	42	36	64	51	42	36	49	41	35	47	40	35	46	40	35	33								
8	61	47	38	32	59	46	38	32	45	37	31	43	36	31	42	36	31	29								
9	57	43	34	29	56	42	34	28	41	34	28	40	33	28	39	33	28	26								
10	53	40	31	26	52	39	31	26	38	31	26	37	30	26	36	30	25	24								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10684	10684	10684	10684
5°	10673	10693	10671	10654
10°	10671	10715	10663	10624
15°	10650	10723	10650	10581
20°	10620	10719	10615	10527
25°	10581	10694	10589	10479
30°	10533	10668	10547	10412
35°	10479	10618	10491	10342
40°	10391	10556	10423	10257
45°	10278	10461	10323	10144
50°	10139	10329	10196	10011
55°	9957	10135	10033	9846
60°	9736	9907	9829	9658
65°	9478	9634	9616	9443
70°	9275	9396	9460	9282
75°	9282	9357	9508	9338
80°	9892	9892	10201	10046
85°	13139	12915	13614	13446

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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	41.5	3.1	3.2
10°-20°	119.2	9.0	9.3
20°-30°	181.6	13.7	14.1
30°-40°	220.5	16.6	17.1
40°-50°	230.5	17.4	17.9
50°-60°	210.2	15.9	16.3
60°-70°	164.0	12.4	12.7
70°-80°	105.7	8.0	8.2
80°-90°	51.8	3.9	4.0
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°	342.3	25.8	26.6
0°-40°	562.7	42.5	43.7
0°-60°	1003.5	75.7	77.9
0°-90°	1325.0	100.0	102.9
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°	1325.0	100.0	102.9

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	438	438	438	438	438	
5°	436	437	436	436	436	41
15°	422	425	422	420	422	119
25°	394	398	394	390	394	181
35°	352	357	353	348	352	220
45°	298	304	300	294	298	230
55°	234	239	236	232	234	209
65°	164	167	167	164	164	163
75°	99	99	101	99	99	105
85°	47	46	49	48	47	51
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°	438.5	438.5	438.5	438.5	438.5	438.5	438.5	438.5	438.5	438.5	438.5
0.5°	438.3	438.7	439.0	438.5	438.4	438.4	438.7	438.5	438.4	438.6	439.0
1°	438.1	438.3	439.1	438.7	438.5	438.4	438.4	438.5	438.1	438.3	438.9
1.5°	438.1	438.7	438.9	438.8	438.3	438.3	438.6	438.4	438.1	438.5	438.5
2°	437.9	438.2	438.8	438.7	438.3	438.7	438.3	438.4	438.1	437.8	438.4
2.5°	437.7	438.2	438.9	438.3	438.5	438.3	438.5	438.3	437.5	438.0	438.5
3°	437.9	437.9	438.6	438.6	438.2	438.2	438.2	438.3	437.5	437.9	438.0
3.5°	437.3	437.8	438.7	438.2	437.8	438.1	438.1	438.1	437.3	437.3	437.7
4°	437.2	437.5	438.4	438.2	438.1	438.1	437.9	438.0	437.3	437.1	437.4
4.5°	436.6	437.4	437.8	437.9	438.0	437.7	437.7	437.2	436.8	436.8	436.7
5°	436.4	436.8	437.8	437.7	437.2	437.7	437.2	437.2	436.3	436.4	436.5
5.5°	436.0	436.8	437.7	436.9	437.2	437.0	437.2	436.7	436.2	435.7	436.4
6°	435.7	436.0	437.0	436.8	436.8	436.6	436.5	436.5	435.3	435.7	435.6
6.5°	435.3	435.9	436.6	436.4	436.3	436.5	436.5	436.2	435.2	435.3	435.1
7°	434.9	435.2	436.3	436.3	436.5	436.2	435.9	435.6	434.9	434.6	434.6
7.5°	434.1	435.1	436.0	435.9	435.7	435.6	435.6	434.9	434.3	433.7	433.9
8°	433.6	434.5	435.2	435.4	435.0	435.3	434.7	434.5	433.5	433.5	433.2
8.5°	433.1	433.4	434.9	434.6	434.6	434.5	434.4	433.9	433.2	432.8	433.0
9°	432.6	433.1	434.2	434.3	434.4	433.9	433.6	433.6	432.4	432.1	431.9
9.5°	431.9	432.7	433.6	433.3	433.6	433.6	433.2	432.6	432.0	431.7	431.4
10°	431.3	431.9	432.8	433.1	433.1	432.9	432.5	432.1	431.0	430.9	430.6
10.5°	430.2	430.9	432.4	432.5	432.4	432.4	432.0	431.3	430.3	430.0	429.7
11°	429.4	430.2	431.5	431.7	431.7	431.6	431.1	430.7	429.5	429.2	428.8
11.5°	428.7	429.5	430.7	430.8	430.9	430.8	430.2	429.7	428.9	428.4	428.3
12°	428.1	428.7	430.0	430.0	430.7	430.0	429.5	429.0	427.7	427.5	427.1
12.5°	427.3	428.1	428.9	429.4	429.5	429.4	428.8	428.1	427.1	426.7	426.2
13°	426.1	426.9	428.2	428.3	428.5	428.4	427.7	427.2	426.3	425.7	425.1
13.5°	425.3	425.9	427.5	427.6	427.9	427.7	427.1	426.5	425.1	424.7	424.3
14°	424.2	425.1	426.3	426.7	427.3	426.6	426.0	425.7	424.1	423.8	422.8
14.5°	423.3	424.2	425.1	425.7	425.9	425.7	424.9	424.2	422.9	422.4	422.0
15°	422.2	422.9	424.5	424.6	425.1	424.5	423.7	423.3	422.2	421.3	421.0
15.5°	421.0	422.1	423.1	424.0	423.9	423.7	423.0	422.2	421.0	420.7	420.0
16°	420.1	420.6	422.2	422.6	422.8	422.7	422.0	421.3	419.9	419.4	418.4
16.5°	418.8	419.9	421.1	421.3	422.2	421.7	420.9	420.1	418.7	418.0	417.3
17°	417.4	418.4	420.1	420.6	421.0	420.5	419.7	419.2	417.4	416.8	416.2
17.5°	416.3	417.5	418.6	419.4	419.3	419.1	418.4	417.5	416.4	415.9	415.0
18°	415.0	415.9	417.6	418.1	418.4	418.1	417.1	416.2	415.3	414.4	413.7
18.5°	413.5	414.7	416.2	417.0	417.3	417.0	416.1	415.1	413.6	413.0	412.2
19°	412.2	413.5	414.8	415.5	415.7	415.7	414.6	414.0	412.2	411.8	410.9
19.5°	411.0	412.2	413.5	414.3	414.6	414.4	413.6	412.3	411.3	410.1	409.7
20°	409.6	410.5	412.5	412.9	413.4	413.0	411.7	411.3	409.4	409.0	408.1
20.5°	408.0	409.2	410.9	411.7	411.6	411.4	411.0	409.8	408.2	407.5	406.6
21°	406.6	407.8	409.4	410.1	410.5	410.3	409.3	408.1	406.8	406.1	405.1
21.5°	405.0	406.3	407.8	408.6	409.3	408.7	407.7	406.7	405.3	404.6	403.6
22°	403.7	404.7	406.3	407.3	407.4	407.2	406.2	405.4	403.5	402.9	401.9

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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°	401.9	403.3	404.6	405.5	406.1	405.8	404.8	403.6	402.4	401.3	400.4
23°	400.4	401.6	403.2	404.1	404.8	404.2	403.0	402.4	400.8	399.8	398.8
23.5°	398.8	400.2	401.4	402.3	402.8	402.5	401.9	400.7	398.9	398.2	397.0
24°	397.2	398.3	400.0	401.0	401.2	400.8	400.0	398.9	397.2	396.5	395.3
24.5°	395.2	396.8	398.4	399.1	399.9	399.2	398.2	396.9	395.5	394.4	393.8
25°	393.6	395.2	396.0	397.5	397.8	397.6	396.5	395.5	393.9	393.2	391.8
25.5°	391.9	393.2	394.8	395.7	396.0	395.9	394.9	393.6	392.3	391.4	390.1
26°	390.0	391.5	393.2	393.8	394.7	393.8	393.3	392.1	390.4	389.5	388.4
26.5°	388.3	389.8	391.3	391.9	392.6	392.3	391.3	390.2	388.7	387.3	386.5
27°	386.5	387.8	389.2	390.3	390.8	390.6	389.4	388.4	386.4	385.7	384.4
27.5°	384.5	386.0	387.7	388.2	389.1	388.6	387.7	386.4	385.0	383.7	382.9
28°	382.4	384.0	385.5	386.6	387.3	386.7	385.7	384.4	382.9	382.0	380.4
28.5°	380.8	382.0	383.7	384.5	385.2	385.0	383.8	382.4	381.2	379.7	378.9
29°	378.7	380.2	381.6	382.5	383.2	382.7	382.0	380.6	378.9	377.9	376.7
29.5°	376.6	378.2	379.8	380.5	381.3	380.7	379.6	378.7	377.3	375.8	374.9
30°	374.4	376.0	377.6	378.3	379.2	378.8	377.9	376.5	374.9	373.7	372.4
30.5°	372.5	373.8	375.5	376.5	377.1	376.9	375.9	374.3	373.0	371.5	370.6
31°	370.1	371.9	373.2	374.1	375.4	374.7	373.5	372.3	370.5	369.6	368.2
31.5°	368.1	369.7	371.1	372.0	373.0	372.5	371.4	370.2	368.6	367.6	366.2
32°	366.1	367.6	369.2	369.9	370.5	370.2	369.4	367.9	366.6	365.3	363.8
32.5°	363.8	365.3	366.8	367.6	368.7	368.3	367.0	365.9	364.3	363.0	362.0
33°	361.5	363.2	364.6	365.6	366.6	366.0	365.1	363.6	362.0	360.8	359.4
33.5°	359.2	360.8	362.3	363.1	364.2	363.9	362.7	361.2	359.9	358.4	357.2
34°	356.8	358.3	359.8	360.8	362.0	361.3	360.2	358.8	357.4	355.8	354.8
34.5°	354.3	356.2	357.6	358.6	359.5	359.0	357.8	356.7	355.0	353.9	352.6
35°	352.3	353.7	355.4	355.9	357.0	356.7	355.7	354.2	352.7	351.6	350.2
35.5°	349.8	351.7	352.6	353.8	355.0	354.4	353.2	351.9	350.4	349.1	347.9
36°	347.5	348.9	350.4	351.4	352.3	351.8	350.9	349.5	347.9	346.5	345.3
36.5°	344.9	346.6	347.9	348.7	349.9	349.7	348.4	346.9	345.5	344.3	342.9
37°	342.3	343.9	345.2	346.1	347.6	346.9	346.0	344.5	343.1	341.7	340.4
37.5°	339.5	341.5	343.0	343.9	345.1	344.5	343.3	342.1	340.5	339.1	338.0
38°	337.4	338.8	340.3	341.2	342.1	341.8	340.9	339.4	337.9	336.8	335.3
38.5°	334.7	336.5	337.6	338.5	339.8	339.3	338.2	336.8	335.5	333.9	332.7
39°	332.0	333.9	335.2	336.1	337.2	337.0	335.7	334.1	332.7	331.6	330.4
39.5°	329.6	330.9	332.5	333.3	334.5	334.2	333.2	331.7	330.3	328.8	327.8
40°	326.7	328.4	329.7	330.5	331.9	331.4	330.3	329.0	327.7	326.3	324.8
40.5°	324.0	325.7	327.0	327.8	329.2	328.9	327.5	326.2	324.7	323.6	322.4
41°	321.2	322.9	324.3	325.2	326.3	326.2	324.8	323.6	322.0	320.9	319.6
41.5°	318.7	320.0	321.4	322.3	323.7	323.1	322.3	320.8	319.6	318.0	317.1
42°	315.6	317.4	318.6	319.4	321.0	320.6	319.5	317.9	316.8	315.5	314.3
42.5°	312.8	314.6	315.8	316.6	318.0	317.7	316.8	315.3	313.8	312.7	311.4
43°	310.2	311.7	312.7	313.8	315.3	314.7	313.8	312.3	311.1	309.9	308.5
43.5°	307.2	308.9	310.2	310.8	312.4	311.9	311.0	309.7	308.4	306.9	305.8
44°	304.3	306.0	307.0	308.0	309.3	309.0	308.1	306.6	305.1	304.3	302.9
44.5°	301.4	302.7	304.2	304.9	306.4	306.2	305.1	303.8	302.5	301.3	300.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	298.3	300.1	301.1	301.9	303.6	303.1	302.2	300.8	299.6	298.2	297.1
45.5°	295.6	297.1	298.1	299.0	300.6	300.0	299.4	297.8	296.6	295.3	294.3
46°	292.5	294.0	295.2	296.0	297.6	297.1	296.3	294.8	293.5	292.4	291.3
46.5°	289.4	291.0	292.1	292.8	294.3	294.3	293.1	291.8	290.7	289.4	288.4
47°	286.4	287.8	289.0	289.5	291.4	290.9	290.1	288.8	287.5	286.5	285.3
47.5°	283.3	284.7	286.1	286.7	288.3	288.0	287.1	285.6	284.5	283.4	282.3
48°	280.2	281.6	282.7	283.5	285.2	284.7	284.4	282.6	281.5	280.3	279.2
48.5°	277.2	278.6	279.5	280.3	281.9	281.7	280.9	279.7	278.3	277.2	276.4
49°	274.1	275.5	276.6	277.1	278.9	278.3	277.8	276.4	275.3	274.1	273.1
49.5°	270.8	272.1	273.3	273.9	275.6	275.4	274.5	273.1	272.1	270.9	270.0
50°	267.5	269.0	270.0	270.6	272.5	272.1	271.4	270.0	269.0	267.8	266.8
50.5°	264.3	265.6	266.8	267.2	269.0	268.8	268.2	266.7	265.7	264.8	263.8
51°	261.1	262.3	263.4	264.0	265.7	265.4	265.0	263.5	262.5	261.6	260.4
51.5°	257.8	259.1	260.0	260.6	262.5	262.2	261.5	260.3	259.3	258.3	257.5
52°	254.7	255.9	256.8	257.4	259.4	258.9	258.5	257.3	256.2	255.2	254.2
52.5°	251.4	252.5	253.5	254.1	255.8	255.7	254.9	253.8	252.8	251.7	250.8
53°	247.8	249.0	250.1	250.5	252.4	252.3	251.7	250.3	249.5	248.6	247.6
53.5°	244.6	245.8	246.7	247.1	249.0	248.8	248.4	247.2	246.1	245.3	244.3
54°	241.3	242.3	243.1	243.5	245.7	245.3	245.0	243.6	242.9	242.0	241.1
54.5°	237.8	239.0	239.6	240.3	242.1	242.0	241.6	240.5	239.4	238.6	237.8
55°	234.4	235.4	236.4	236.8	238.6	238.6	238.2	237.0	236.2	235.3	234.5
55.5°	231.1	232.1	233.0	233.3	235.2	235.0	234.7	233.6	232.8	232.1	231.1
56°	227.6	228.7	229.3	229.7	231.7	231.6	231.4	230.2	229.5	228.4	227.7
56.5°	224.0	225.1	225.9	226.2	228.2	228.1	227.8	226.8	225.8	225.1	224.2
57°	220.7	221.7	222.2	222.7	224.8	224.5	224.4	223.3	222.7	221.7	221.0
57.5°	217.2	218.1	218.7	219.0	221.0	220.9	220.7	219.7	219.2	218.3	217.6
58°	213.7	214.5	215.2	215.5	217.6	217.6	217.2	216.4	215.6	214.9	214.2
58.5°	210.1	211.0	211.7	211.9	214.0	213.8	213.8	212.9	212.3	211.5	210.8
59°	206.8	207.6	208.1	208.6	210.5	210.7	210.1	209.4	208.8	208.0	207.4
59.5°	203.2	204.1	204.6	204.7	206.9	206.9	206.5	205.8	205.3	204.4	203.8
60°	199.8	200.3	200.9	201.3	203.3	203.2	203.2	202.2	201.7	201.1	200.5
60.5°	196.2	196.9	197.3	197.5	199.7	199.7	199.6	198.7	198.4	197.7	197.1
61°	192.6	193.3	193.5	193.9	196.0	196.3	196.0	195.3	194.8	194.3	193.6
61.5°	189.1	189.7	190.2	190.1	192.4	192.4	192.4	191.7	191.2	190.7	190.1
62°	185.6	186.1	186.5	186.9	188.8	189.0	188.9	188.1	187.8	187.3	186.7
62.5°	182.0	182.6	182.9	183.1	185.1	185.4	185.3	184.6	184.3	183.8	183.3
63°	178.6	179.0	179.2	179.5	181.5	181.8	181.7	181.0	180.8	180.3	179.8
63.5°	175.1	175.4	175.6	175.8	178.0	178.1	178.2	177.5	177.3	176.7	176.4
64°	171.4	171.9	172.0	172.2	174.4	174.6	174.6	174.1	173.7	173.3	172.9
64.5°	167.9	168.3	168.5	168.6	170.6	170.9	171.0	170.4	170.2	169.8	169.4
65°	164.4	164.7	164.8	165.0	167.1	167.5	167.6	167.1	166.8	166.5	166.0
65.5°	160.9	161.3	161.3	161.6	163.5	163.9	164.1	163.5	163.5	162.9	162.6
66°	157.4	157.7	157.7	157.8	160.0	160.2	160.4	160.1	160.0	159.5	159.1
66.5°	154.0	154.1	154.2	154.2	156.5	156.7	156.9	156.5	156.5	156.0	155.7
67°	150.4	150.8	150.6	150.8	152.9	153.2	153.5	153.0	153.1	152.7	152.3

TEST NUMBER: P855596
 CATALOG NUMBER: HLS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	147.0	147.2	147.3	147.4	149.3	149.8	149.9	149.7	149.7	149.3	149.1
68°	143.8	143.8	143.8	143.8	145.8	146.2	146.6	146.2	146.3	145.9	145.7
68.5°	140.4	140.3	140.3	140.3	142.4	142.8	143.1	142.9	142.9	142.6	142.4
69°	136.9	137.0	136.8	136.9	138.9	139.3	139.7	139.5	139.3	139.2	138.9
69.5°	133.5	133.4	133.4	133.4	135.4	135.9	136.1	136.0	136.1	135.9	135.7
70°	130.2	130.0	130.0	130.0	131.9	132.4	133.0	132.7	132.8	132.7	132.3
70.5°	126.8	126.8	126.6	126.5	128.4	129.2	129.5	129.5	129.5	129.4	129.1
71°	123.7	123.4	123.2	123.2	125.2	125.8	126.1	126.2	126.2	126.1	125.9
71.5°	120.5	120.2	119.8	119.9	121.9	122.5	122.9	122.8	123.0	122.8	122.6
72°	117.2	116.8	116.7	116.7	118.6	119.2	119.6	119.6	119.7	119.7	119.4
72.5°	113.9	113.7	113.4	113.3	115.3	115.9	116.3	116.5	116.5	116.5	116.2
73°	110.7	110.4	110.1	110.1	112.0	112.5	113.2	113.1	113.3	113.3	113.2
73.5°	107.7	107.2	106.9	106.9	108.8	109.4	109.9	110.0	110.2	110.2	109.9
74°	104.6	104.1	103.9	103.7	105.5	106.3	106.7	106.9	107.1	107.1	106.9
74.5°	101.5	101.0	100.7	100.6	102.5	103.1	103.7	103.9	104.1	104.1	104.0
75°	98.6	97.9	97.6	97.5	99.4	99.9	100.6	100.7	101.0	101.1	100.8
75.5°	95.6	95.0	94.5	94.4	96.3	97.0	97.5	97.8	97.9	98.0	97.9
76°	92.6	92.0	91.6	91.4	93.3	93.9	94.5	94.8	95.0	95.2	95.0
76.5°	89.6	89.0	88.5	88.5	90.4	91.0	91.6	91.8	92.1	92.2	92.0
77°	86.7	86.1	85.6	85.5	87.6	88.2	88.7	88.9	89.4	89.5	89.2
77.5°	84.1	83.3	82.9	82.6	84.6	85.3	85.9	86.1	86.5	86.6	86.5
78°	81.3	80.5	79.9	79.9	81.7	82.5	83.0	83.2	83.7	83.8	83.7
78.5°	78.4	77.7	77.1	77.0	78.9	79.5	80.1	80.4	80.9	81.1	81.0
79°	75.7	75.0	74.4	74.2	76.0	76.6	77.4	77.8	78.1	78.3	78.2
79.5°	73.2	72.2	71.7	71.5	73.3	73.9	74.6	75.0	75.5	75.7	75.5
80°	70.5	69.7	69.0	68.8	70.5	71.1	71.9	72.3	72.7	72.9	72.9
80.5°	68.1	67.1	66.5	66.4	67.9	68.6	69.2	69.8	70.2	70.4	70.3
81°	65.4	64.6	63.9	63.7	65.3	66.0	66.7	67.1	67.5	67.9	67.8
81.5°	63.0	61.9	61.4	61.1	62.8	63.4	64.2	64.6	65.1	65.3	65.2
82°	60.6	59.6	58.9	58.6	60.2	60.9	61.6	62.1	62.6	62.8	62.7
82.5°	58.2	57.2	56.5	56.2	57.7	58.3	59.2	59.7	60.1	60.3	60.3
83°	55.8	54.8	54.1	53.9	55.3	55.9	56.6	57.3	57.7	58.0	57.9
83.5°	53.6	52.5	51.9	51.5	53.0	53.6	54.3	55.1	55.5	55.7	55.7
84°	51.3	50.3	49.7	49.2	50.7	51.2	52.1	52.7	53.1	53.4	53.4
84.5°	49.1	48.2	47.4	47.1	48.4	49.1	49.8	50.4	50.9	51.1	51.1
85°	47.0	45.9	45.2	44.9	46.2	46.8	47.5	48.2	48.7	48.9	48.9
85.5°	44.9	43.8	43.1	42.8	43.9	44.6	45.4	45.9	46.6	46.7	46.8
86°	42.8	41.8	41.1	40.8	41.9	42.5	43.2	43.9	44.4	44.7	44.7
86.5°	40.8	39.8	39.1	38.6	39.8	40.4	41.2	41.8	42.3	42.6	42.6
87°	38.9	37.9	37.1	36.8	37.9	38.3	39.2	39.8	40.3	40.5	40.7
87.5°	37.3	36.1	35.3	35.0	35.9	36.4	37.2	37.9	38.3	38.6	38.6
88°	35.4	34.3	33.6	33.2	34.1	34.6	35.3	36.0	36.4	36.6	36.8
88.5°	33.6	32.6	31.8	31.4	32.2	32.7	33.3	34.1	34.6	34.8	34.9
89°	31.8	30.8	30.1	29.6	30.4	30.8	31.5	32.3	32.7	33.0	33.1
89.5°	29.9	29.0	28.4	27.9	28.7	29.1	29.9	30.5	30.9	31.2	31.3

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



TEST NUMBER: P855596
CATALOG NUMBER: HLS9129FS1EWH-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: P855596
 CATALOG NUMBER: HLS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	438.5	438.5	438.5	438.5	438.5	438.5
0.5°	438.7	438.3	438.2	438.5	438.5	438.3
1°	438.2	437.9	438.2	438.2	438.4	438.1
1.5°	438.3	437.4	437.9	438.2	438.1	438.1
2°	438.2	437.8	437.8	437.9	437.9	437.9
2.5°	437.9	437.3	437.3	438.0	438.0	437.7
3°	437.3	436.8	437.3	437.4	437.8	437.9
3.5°	437.5	436.6	436.8	437.4	437.3	437.3
4°	436.9	436.3	436.4	436.8	437.2	437.2
4.5°	436.3	435.6	436.2	436.5	436.8	436.6
5°	436.1	435.6	435.4	436.2	436.2	436.4
5.5°	435.4	435.0	435.1	435.4	436.1	436.0
6°	435.2	434.3	434.8	435.1	435.7	435.7
6.5°	434.5	433.6	434.1	434.7	434.8	435.3
7°	433.9	433.6	433.6	434.2	434.4	434.9
7.5°	433.3	432.7	433.2	433.4	433.8	434.1
8°	433.0	431.8	432.3	432.8	433.3	433.6
8.5°	431.8	431.5	431.5	432.1	432.4	433.1
9°	431.4	430.7	430.9	431.2	432.3	432.6
9.5°	430.7	429.7	430.3	430.9	431.2	431.9
10°	430.1	429.4	429.3	430.1	430.7	431.3
10.5°	428.9	428.1	428.4	429.0	429.7	430.2
11°	428.2	427.5	427.8	428.2	429.1	429.4
11.5°	427.5	426.4	426.6	427.6	428.0	428.7
12°	426.2	425.9	425.7	426.5	427.2	428.1
12.5°	425.5	424.4	425.1	425.5	426.2	427.3
13°	424.6	423.6	423.9	424.7	425.3	426.1
13.5°	423.4	422.5	422.6	423.6	424.3	425.3
14°	422.1	421.6	422.0	422.3	423.4	424.2
14.5°	421.3	420.3	420.6	421.7	422.2	423.3
15°	420.4	419.5	419.3	420.2	421.0	422.2
15.5°	418.8	418.0	418.4	418.8	419.8	421.0
16°	417.9	416.9	417.2	418.0	418.9	420.1
16.5°	416.6	415.8	415.8	416.8	417.7	418.8
17°	415.3	414.5	414.8	415.2	416.7	417.4
17.5°	414.1	412.8	413.1	414.1	415.0	416.3
18°	412.8	411.9	411.9	412.7	413.7	415.0
18.5°	411.5	410.4	410.8	411.1	412.5	413.5
19°	409.7	409.2	409.5	410.0	411.0	412.2
19.5°	408.7	407.7	407.9	408.7	409.9	411.0
20°	406.9	406.0	406.4	406.8	408.4	409.6
20.5°	406.0	404.4	404.9	405.5	406.6	408.0
21°	404.0	403.1	403.3	404.2	405.3	406.6
21.5°	402.6	401.6	401.8	402.4	403.7	405.0
22°	401.0	400.1	400.3	400.8	401.9	403.7

TEST NUMBER: P855596
 CATALOG NUMBER: HLS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	399.5	398.3	398.7	399.2	400.5	401.9
23°	397.6	396.7	396.9	397.6	399.0	400.4
23.5°	396.2	394.8	395.2	395.6	397.2	398.8
24°	394.6	393.2	393.4	394.5	395.6	397.2
24.5°	392.8	391.5	391.7	392.3	393.7	395.2
25°	390.9	389.8	390.0	390.5	391.9	393.6
25.5°	389.3	387.8	388.2	389.0	390.0	391.9
26°	387.2	386.4	386.1	387.2	388.5	390.0
26.5°	385.5	384.0	384.5	385.1	386.6	388.3
27°	383.4	382.2	382.6	383.2	384.4	386.5
27.5°	381.6	380.3	380.6	381.3	382.6	384.5
28°	379.4	378.5	378.7	379.1	380.8	382.4
28.5°	377.7	376.2	376.9	377.2	378.6	380.8
29°	375.8	374.4	374.6	375.4	376.7	378.7
29.5°	373.6	372.1	372.5	373.2	374.8	376.6
30°	371.5	370.1	370.4	370.8	372.6	374.4
30.5°	369.4	367.9	368.3	369.0	370.2	372.5
31°	367.4	366.1	366.3	366.6	368.6	370.1
31.5°	365.2	363.8	364.1	364.7	366.0	368.1
32°	363.1	361.6	361.9	362.3	363.9	366.1
32.5°	360.8	359.3	359.5	360.4	361.5	363.8
33°	358.7	357.1	357.3	357.8	359.5	361.5
33.5°	356.0	354.5	355.1	355.7	357.1	359.2
34°	353.9	352.5	352.7	353.3	354.8	356.8
34.5°	351.8	350.0	350.4	350.8	352.6	354.3
35°	349.1	347.7	347.9	348.6	350.1	352.3
35.5°	346.9	345.2	345.4	346.0	347.5	349.8
36°	344.5	342.8	343.1	343.6	345.3	347.5
36.5°	342.1	340.1	340.5	341.2	342.8	344.9
37°	339.3	338.1	338.0	338.7	340.3	342.3
37.5°	337.0	335.5	335.7	336.3	337.7	339.5
38°	334.5	332.7	333.1	333.6	335.0	337.4
38.5°	331.9	330.2	330.3	331.0	332.5	334.7
39°	329.3	327.8	328.0	328.5	330.0	332.0
39.5°	326.8	324.8	325.3	325.7	327.3	329.6
40°	324.1	322.5	322.5	323.3	324.6	326.7
40.5°	321.4	319.6	319.9	320.2	321.9	324.0
41°	318.8	317.0	317.1	317.8	319.3	321.2
41.5°	316.1	314.2	314.5	315.1	316.4	318.7
42°	313.3	311.7	311.7	312.3	313.6	315.6
42.5°	310.5	308.5	309.1	309.3	311.0	312.8
43°	307.9	306.0	306.0	306.8	308.2	310.2
43.5°	305.0	302.9	303.2	303.5	305.3	307.2
44°	301.9	300.3	300.4	300.8	302.4	304.3
44.5°	299.1	297.4	297.6	298.0	299.5	301.4

TEST NUMBER: P855596
 CATALOG NUMBER: HLS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	296.2	294.4	294.4	295.2	296.6	298.3
45.5°	293.5	291.3	291.8	292.2	293.8	295.6
46°	290.5	288.6	288.7	289.0	290.7	292.5
46.5°	287.6	285.6	285.7	286.3	287.5	289.4
47°	284.5	282.8	282.9	283.2	284.8	286.4
47.5°	281.4	279.4	279.7	280.1	281.4	283.3
48°	278.5	276.6	276.5	277.1	278.4	280.2
48.5°	275.6	273.6	273.7	274.1	275.5	277.2
49°	272.3	270.4	270.6	270.9	272.3	274.1
49.5°	269.2	267.3	267.3	267.8	269.1	270.8
50°	266.1	264.1	264.3	264.6	266.3	267.5
50.5°	263.0	260.9	261.0	261.5	262.7	264.3
51°	259.9	258.0	257.9	258.5	259.5	261.1
51.5°	256.8	254.7	254.7	255.1	256.4	257.8
52°	253.5	251.4	251.6	252.0	253.3	254.7
52.5°	250.2	248.2	248.0	248.7	249.9	251.4
53°	247.1	245.0	245.1	245.4	246.6	247.8
53.5°	243.9	241.7	241.7	242.0	243.3	244.6
54°	240.5	238.5	238.5	238.8	240.0	241.3
54.5°	237.2	235.1	235.0	235.6	236.6	237.8
55°	234.0	231.8	231.8	232.3	233.4	234.4
55.5°	230.7	228.5	228.5	228.8	229.8	231.1
56°	227.3	225.3	225.2	225.6	226.4	227.6
56.5°	224.0	222.0	221.7	222.0	223.3	224.0
57°	220.5	218.4	218.3	218.6	219.7	220.7
57.5°	217.1	215.1	215.0	215.3	216.2	217.2
58°	213.8	211.8	211.6	211.9	212.9	213.7
58.5°	210.5	208.2	208.1	208.6	209.3	210.1
59°	207.0	205.0	204.9	205.1	205.9	206.8
59.5°	203.7	201.5	201.3	201.5	202.6	203.2
60°	200.2	198.2	197.9	198.2	198.9	199.8
60.5°	196.9	194.7	194.6	194.6	195.4	196.2
61°	193.3	191.2	191.1	191.3	192.0	192.6
61.5°	189.9	187.7	187.5	187.7	188.5	189.1
62°	186.4	184.4	184.2	184.4	185.1	185.6
62.5°	183.0	180.9	180.6	180.8	181.6	182.0
63°	179.5	177.5	177.2	177.5	178.1	178.6
63.5°	176.2	174.0	173.7	173.9	174.5	175.1
64°	172.7	170.6	170.4	170.4	171.1	171.4
64.5°	169.3	167.2	167.0	167.1	167.6	167.9
65°	165.7	163.8	163.5	163.7	164.1	164.4
65.5°	162.5	160.3	160.1	160.1	160.7	160.9
66°	159.1	157.0	156.7	156.7	157.3	157.4
66.5°	155.6	153.4	153.2	153.3	153.7	154.0
67°	152.2	150.3	150.0	149.9	150.3	150.4

TEST NUMBER: P855596
 CATALOG NUMBER: HLS9129FS1EWH-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	148.8	146.8	146.5	146.5	146.9	147.0
68°	145.5	143.6	143.1	143.2	143.6	143.8
68.5°	142.2	140.2	139.8	140.0	140.2	140.4
69°	138.9	136.9	136.6	136.7	137.0	136.9
69.5°	135.6	133.6	133.2	133.2	133.5	133.5
70°	132.2	130.3	130.1	130.0	130.2	130.2
70.5°	128.9	127.0	126.7	126.7	126.9	126.8
71°	125.8	123.9	123.5	123.7	123.9	123.7
71.5°	122.6	120.7	120.4	120.4	120.6	120.5
72°	119.4	117.6	117.3	117.1	117.3	117.2
72.5°	116.2	114.4	113.9	114.0	114.1	113.9
73°	113.1	111.3	110.9	110.9	111.1	110.7
73.5°	110.0	108.2	107.9	107.9	108.0	107.7
74°	106.9	105.2	104.9	104.9	104.9	104.6
74.5°	103.9	102.2	101.8	101.8	101.8	101.5
75°	101.0	99.2	98.9	98.9	98.9	98.6
75.5°	98.0	96.2	95.9	95.9	95.9	95.6
76°	95.1	93.5	93.1	93.1	93.0	92.6
76.5°	92.1	90.5	90.2	90.1	90.1	89.6
77°	89.4	87.7	87.4	87.3	87.2	86.7
77.5°	86.6	84.9	84.7	84.6	84.5	84.1
78°	83.8	82.2	81.9	81.8	81.7	81.3
78.5°	81.1	79.5	79.2	79.1	79.1	78.4
79°	78.3	76.9	76.5	76.4	76.3	75.7
79.5°	75.7	74.1	73.9	73.8	73.7	73.2
80°	73.0	71.6	71.4	71.2	71.1	70.5
80.5°	70.4	69.0	68.8	68.8	68.6	68.1
81°	68.0	66.6	66.4	66.3	66.2	65.4
81.5°	65.4	64.0	63.8	63.7	63.6	63.0
82°	62.9	61.6	61.5	61.4	61.3	60.6
82.5°	60.4	59.3	59.2	59.1	58.9	58.2
83°	58.2	57.0	56.9	56.7	56.5	55.8
83.5°	55.8	54.6	54.6	54.5	54.3	53.6
84°	53.6	52.4	52.4	52.3	52.1	51.3
84.5°	51.3	50.3	50.3	50.2	50.0	49.1
85°	49.2	48.1	48.1	48.0	47.7	47.0
85.5°	47.0	46.1	46.1	45.9	45.6	44.9
86°	45.0	43.9	44.0	43.9	43.6	42.8
86.5°	42.9	41.9	42.0	41.9	41.6	40.8
87°	40.9	40.0	40.0	40.0	39.7	38.9
87.5°	39.0	38.2	38.2	38.1	37.8	37.3
88°	37.1	36.4	36.5	36.4	36.1	35.4
88.5°	35.3	34.7	34.7	34.6	34.3	33.6
89°	33.5	33.0	33.0	32.9	32.6	31.8
89.5°	31.7	31.2	31.3	31.2	30.8	29.9

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



TEST NUMBER: P855596
CATALOG NUMBER: HLS9129FS1EWH-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)