

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P438453

Luminaire Tested: **IST-SA1C-830-U-SLR-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438453  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: IST-SA1C-830-U-SLR-HSS  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

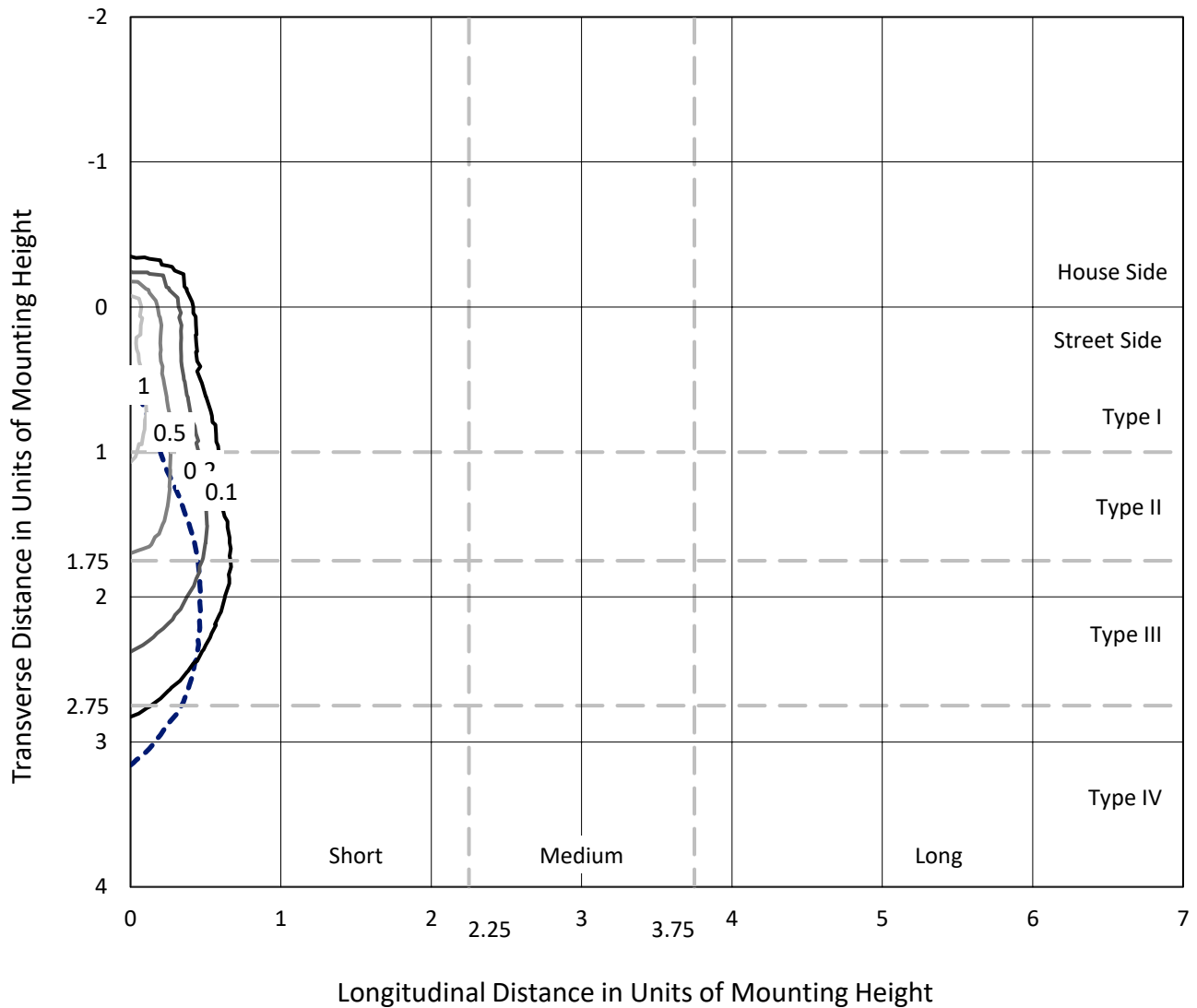
Lumens per Lamp: N/A  
Luminaire Lumens: 2711 lumens  
Efficiency: N/A  
Efficacy: 79.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

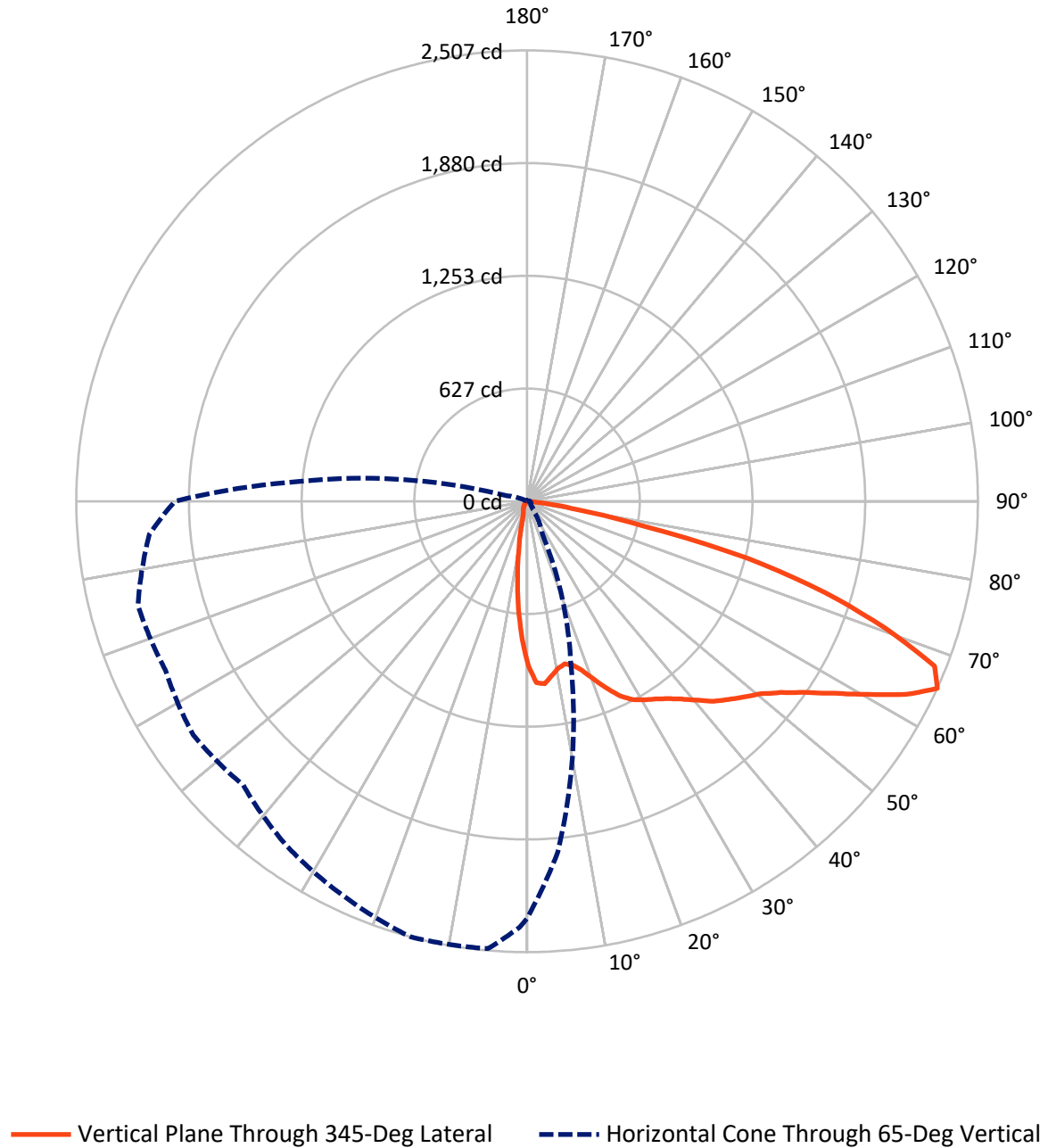
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



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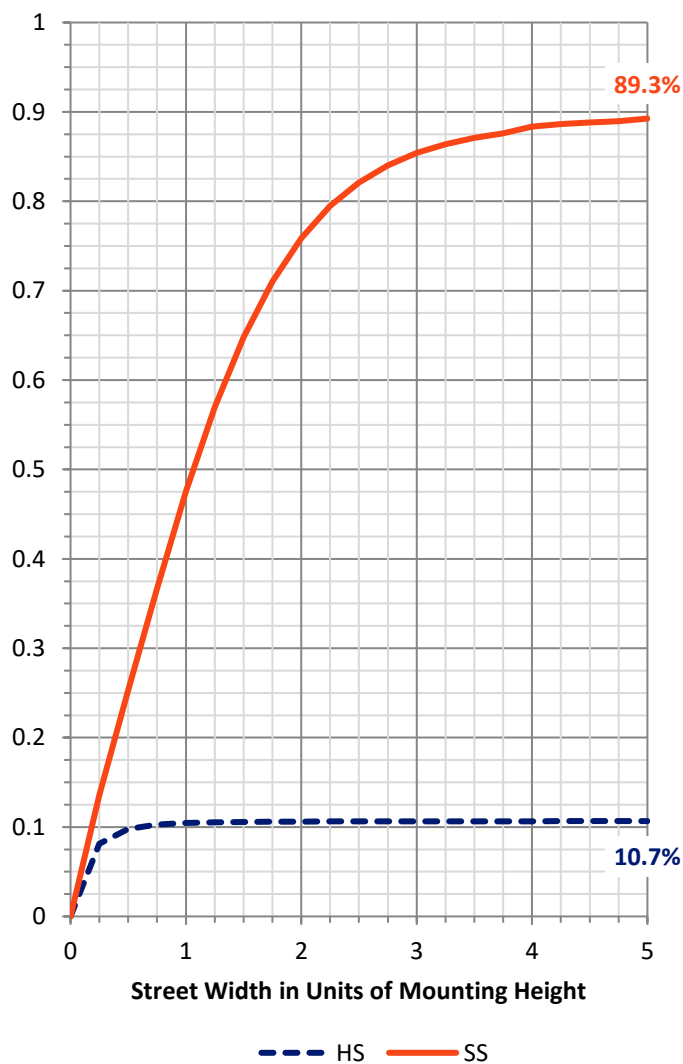
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	292.2	0.0	292.2
	% Fixture	10.8	0.0	10.8
<b>Street Side</b>	Lumens	2418.7	0.0	2418.7
	% Fixture	89.2	0.0	89.2
<b>Total</b>	Lumens	2711.0	0.0	2711.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.9	2.5
10°-20°	132.2	4.9
20°-30°	192.8	7.1
30°-40°	286.5	10.6
40°-50°	420.1	15.5
50°-60°	604.5	22.3
60°-70°	678.1	25.0
70°-80°	297.5	11.0
80°-90°	31.3	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	2711.0	100.0
0°-180°	2711.0	100.0

**Coefficient of Utilization**



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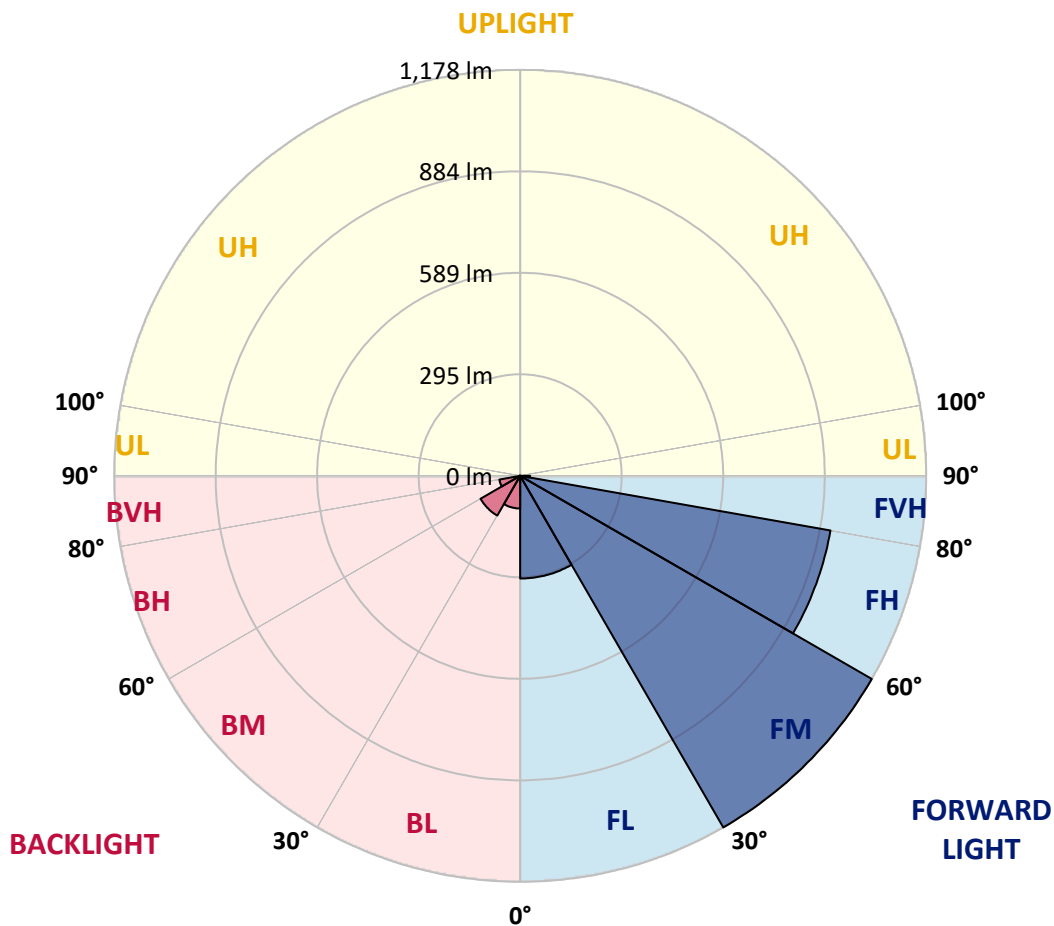
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	298.1	11.0			
FM (30°-60°)	1178.1	43.5			
FH (60°-80°)	914.3	33.7			G1/1800
FVH (80°-90°)	28.3	1.0			G1/100
BL (0°-30°)	94.8	3.5	B0/110		
BM (30°-60°)	133.0	4.9	B0/220		
BH (60°-80°)	61.4	2.3	B0/110		G0/110
BVH (80°-90°)	3.0	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9
2.5°	968.2	968.2	953.9	920.1	888.9	851.1	830.3	810.8	790.0	775.6	753.5
5°	922.7	913.6	892.8	830.3	763.9	719.7	685.8	626.0	597.3	576.5	567.4
7.5°	847.2	842.0	808.2	735.3	655.9	584.3	538.8	489.3	450.3	434.7	407.3
10°	795.2	790.0	747.0	648.1	555.7	503.6	467.2	432.1	394.3	356.6	328.0
12.5°	769.1	758.7	717.1	605.2	525.8	475.0	433.4	390.4	343.6	301.9	268.1
15°	775.6	758.7	711.9	597.3	503.6	441.2	387.8	325.4	278.5	229.0	197.8
17.5°	821.2	803.0	745.7	603.9	475.0	395.6	325.4	255.1	192.6	147.1	131.4
20°	905.8	886.3	808.2	618.2	456.8	350.1	251.2	175.7	127.5	106.7	97.6
22.5°	1013.8	987.8	895.4	641.6	436.0	304.5	190.0	124.9	97.6	84.6	78.1
25°	1127.0	1101.0	998.2	676.7	423.0	265.5	147.1	97.6	79.4	71.6	67.7
27.5°	1229.8	1197.3	1090.6	728.8	407.3	230.3	122.3	84.6	71.6	62.5	59.9
30°	1323.5	1285.8	1183.0	773.0	385.2	199.1	105.4	78.1	66.4	58.6	54.7
32.5°	1402.9	1373.0	1258.5	804.3	367.0	182.2	93.7	69.0	57.3	50.8	48.2
35°	1497.9	1469.3	1331.3	830.3	355.3	174.4	85.9	65.1	53.4	46.9	41.6
37.5°	1626.8	1585.1	1412.0	853.7	342.3	167.9	79.4	61.2	50.8	42.9	39.0
40°	1742.6	1697.0	1505.7	870.6	335.8	162.7	78.1	58.6	48.2	40.3	36.4
42.5°	1845.4	1803.8	1581.2	877.1	330.6	153.6	76.8	57.3	48.2	39.0	33.8
45°	1910.5	1872.7	1671.0	894.1	330.6	147.1	71.6	57.3	46.9	37.7	32.5
47.5°	1970.3	1933.9	1749.1	912.3	325.4	141.9	65.1	62.5	46.9	36.4	29.9
50°	2057.5	2028.9	1848.0	966.9	316.2	134.0	58.6	61.2	48.2	35.1	29.9
52.5°	2168.1	2155.1	1993.8	1041.1	303.2	119.7	52.1	57.3	48.2	33.8	28.6
55°	2290.5	2285.3	2146.0	1108.8	287.6	102.8	48.2	52.1	46.9	31.2	26.0
57.5°	2364.7	2364.7	2244.9	1146.5	274.6	82.0	42.9	42.9	45.5	28.6	23.4
60°	2392.0	2363.4	2233.2	1142.6	252.5	67.7	39.0	35.1	48.2	24.7	20.8
62.5°	2389.4	2326.9	2123.9	1080.2	222.5	62.5	33.8	29.9	35.1	22.1	18.2
65°	2319.1	2243.6	1957.3	940.9	200.4	62.5	28.6	24.7	23.4	19.5	14.3
67.5°	2125.2	2079.6	1714.0	797.8	184.8	62.5	24.7	20.8	18.2	15.6	13.0
70°	1805.1	1745.2	1380.8	615.6	173.1	62.5	20.8	18.2	16.9	13.0	10.4
72.5°	1176.5	1142.6	844.6	423.0	141.9	61.2	18.2	16.9	15.6	11.7	9.1
75°	640.3	592.1	464.6	151.0	101.5	44.2	15.6	14.3	11.7	10.4	7.8
77.5°	277.2	266.8	236.9	40.3	29.9	13.0	9.1	9.1	7.8	7.8	5.2
80°	36.4	27.3	31.2	11.7	10.4	6.5	5.2	3.9	3.9	3.9	2.6
82.5°	1.3	1.3	0.0	1.3	3.9	2.6	0.0	0.0	1.3	1.3	1.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9
2.5°	763.9	748.3	736.6	736.6	752.2	743.1	753.5	747.0	765.2	774.3	771.7
5°	547.9	554.4	547.9	558.3	575.2	584.3	589.5	602.6	601.3	606.5	615.6
7.5°	396.9	396.9	399.5	396.9	412.5	429.5	438.6	434.7	432.1	426.9	436.0
10°	318.8	304.5	287.6	287.6	290.2	299.3	300.6	294.1	285.0	268.1	273.3
12.5°	249.9	239.5	229.0	206.9	205.6	200.4	199.1	180.9	166.6	161.4	161.4
15°	183.5	177.0	165.3	154.9	144.5	139.3	130.1	108.0	93.7	92.4	93.7
17.5°	122.3	118.4	114.5	114.5	110.6	101.5	92.4	78.1	71.6	69.0	70.3
20°	91.1	89.8	85.9	87.2	87.2	79.4	70.3	63.8	61.2	61.2	62.5
22.5°	75.5	74.2	70.3	70.3	70.3	66.4	59.9	56.0	54.7	54.7	54.7
25°	65.1	63.8	61.2	59.9	59.9	57.3	52.1	49.5	48.2	48.2	48.2
27.5°	58.6	57.3	54.7	52.1	52.1	49.5	46.9	42.9	42.9	42.9	42.9
30°	52.1	50.8	49.5	46.9	45.5	42.9	40.3	39.0	37.7	37.7	37.7
32.5°	46.9	45.5	44.2	42.9	40.3	37.7	35.1	33.8	32.5	32.5	32.5
35°	40.3	37.7	36.4	37.7	36.4	32.5	31.2	28.6	27.3	27.3	27.3
37.5°	36.4	33.8	31.2	29.9	29.9	29.9	27.3	24.7	23.4	22.1	23.4
40°	33.8	31.2	28.6	26.0	24.7	26.0	23.4	20.8	19.5	18.2	19.5
42.5°	31.2	28.6	24.7	22.1	19.5	22.1	19.5	16.9	15.6	14.3	15.6
45°	29.9	27.3	23.4	19.5	16.9	16.9	16.9	14.3	11.7	11.7	11.7
47.5°	28.6	26.0	20.8	16.9	14.3	13.0	13.0	10.4	9.1	7.8	7.8
50°	27.3	24.7	19.5	14.3	11.7	10.4	10.4	7.8	6.5	6.5	6.5
52.5°	26.0	23.4	18.2	13.0	10.4	7.8	6.5	5.2	5.2	3.9	3.9
55°	23.4	20.8	15.6	11.7	9.1	6.5	5.2	3.9	3.9	2.6	3.9
57.5°	22.1	19.5	14.3	10.4	7.8	5.2	3.9	2.6	2.6	2.6	2.6
60°	19.5	16.9	11.7	7.8	5.2	3.9	2.6	2.6	2.6	1.3	1.3
62.5°	15.6	14.3	10.4	6.5	3.9	2.6	1.3	1.3	1.3	1.3	1.3
65°	14.3	13.0	9.1	5.2	2.6	1.3	1.3	1.3	1.3	1.3	1.3
67.5°	11.7	10.4	6.5	3.9	1.3	1.3	0.0	1.3	1.3	0.0	0.0
70°	9.1	9.1	5.2	2.6	1.3	0.0	0.0	1.3	1.3	0.0	0.0
72.5°	7.8	7.8	5.2	1.3	0.0	0.0	0.0	1.3	1.3	1.3	0.0
75°	6.5	6.5	5.2	2.6	0.0	0.0	0.0	1.3	1.3	1.3	1.3
77.5°	5.2	3.9	2.6	1.3	0.0	0.0	0.0	1.3	1.3	1.3	1.3
80°	2.6	2.6	1.3	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
82.5°	1.3	1.3	0.0	0.0	0.0	0.0	0.0	1.3	2.6	2.6	1.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.6	2.6	2.6
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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**CANDELA DISTRIBUTION (continued):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9
2.5°	778.2	799.1	822.5	836.8	868.0	895.4	927.9	956.5	990.4	1008.6	1015.1
5°	624.7	636.4	666.3	705.4	740.5	790.0	847.2	911.0	980.0	1012.5	1035.9
7.5°	430.8	441.2	484.1	520.6	579.1	642.9	721.0	808.2	898.0	943.5	985.2
10°	281.1	295.4	331.9	382.6	456.8	534.9	614.3	705.4	809.5	862.8	918.8
12.5°	162.7	179.6	223.8	290.2	363.1	446.4	528.4	628.6	744.4	803.0	860.2
15°	93.7	100.2	126.2	184.8	266.8	368.3	464.6	572.6	708.0	773.0	840.7
17.5°	70.3	74.2	82.0	106.7	170.5	282.4	417.8	555.7	711.9	799.1	858.9
20°	62.5	65.1	69.0	78.1	108.0	200.4	360.5	544.0	749.6	861.5	934.4
22.5°	56.0	58.6	62.5	69.0	82.0	135.3	300.6	542.7	812.1	953.9	1035.9
25°	49.5	52.1	56.0	62.5	72.9	97.6	233.0	538.8	890.2	1055.4	1158.3
27.5°	42.9	45.5	49.5	56.0	65.1	80.7	177.0	527.1	983.9	1164.8	1274.1
30°	37.7	40.3	44.2	49.5	58.6	70.3	135.3	507.5	1064.6	1262.4	1352.2
32.5°	32.5	35.1	39.0	44.2	52.1	61.2	109.3	465.9	1127.0	1339.1	1415.9
35°	27.3	29.9	33.8	39.0	45.5	52.1	89.8	398.2	1190.8	1418.5	1492.7
37.5°	23.4	26.0	28.6	33.8	40.3	46.9	74.2	355.3	1237.6	1517.4	1590.3
40°	19.5	22.1	26.0	29.9	35.1	44.2	59.9	298.0	1284.5	1612.4	1680.1
42.5°	15.6	18.2	22.1	27.3	32.5	39.0	48.2	246.0	1331.3	1698.3	1762.1
45°	11.7	14.3	18.2	24.7	32.5	33.8	39.0	209.5	1343.1	1779.0	1833.7
47.5°	9.1	10.4	14.3	20.8	31.2	29.9	32.5	182.2	1365.2	1842.8	1904.0
50°	6.5	7.8	11.7	19.5	27.3	24.7	28.6	171.8	1396.4	1892.2	1924.8
52.5°	5.2	6.5	9.1	16.9	22.1	22.1	26.0	182.2	1436.8	1950.8	1978.1
55°	3.9	5.2	7.8	11.7	16.9	19.5	24.7	196.5	1514.8	2053.6	2048.4
57.5°	2.6	3.9	6.5	9.1	13.0	16.9	23.4	218.6	1594.2	2169.4	2174.7
60°	2.6	3.9	5.2	7.8	11.7	14.3	20.8	221.2	1581.2	2186.4	2263.1
62.5°	1.3	2.6	5.2	6.5	9.1	11.7	18.2	186.1	1456.3	2104.4	2216.3
65°	1.3	2.6	3.9	6.5	7.8	10.4	14.3	118.4	1267.6	1958.6	2107.0
67.5°	1.3	2.6	3.9	5.2	6.5	9.1	11.7	61.2	1075.0	1807.7	1950.8
70°	1.3	2.6	3.9	5.2	6.5	7.8	10.4	29.9	814.7	1523.9	1708.7
72.5°	1.3	2.6	3.9	5.2	5.2	6.5	9.1	20.8	523.2	1145.2	1323.5
75°	1.3	2.6	2.6	3.9	5.2	6.5	7.8	14.3	338.4	770.4	1003.4
77.5°	1.3	2.6	2.6	3.9	5.2	6.5	9.1	13.0	247.3	528.4	693.7
80°	1.3	2.6	2.6	3.9	5.2	5.2	6.5	9.1	132.7	350.1	441.2
82.5°	2.6	2.6	3.9	3.9	3.9	5.2	6.5	6.5	69.0	223.8	298.0
85°	2.6	2.6	3.9	3.9	5.2	5.2	5.2	6.5	29.9	93.7	148.4
87.5°	2.6	3.9	3.9	3.9	5.2	5.2	5.2	5.2	3.9	5.2	5.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9	914.9
2.5°	1034.6	1051.5	1059.3	1052.8	1047.6	1032.0	1009.9	987.8	969.5	968.2
5°	1089.3	1125.7	1154.3	1140.0	1120.5	1075.0	1019.0	956.5	933.1	922.7
7.5°	1077.6	1157.0	1205.1	1192.1	1153.0	1067.2	980.0	898.0	860.2	847.2
10°	1024.2	1130.9	1194.7	1190.8	1154.3	1052.8	944.8	845.9	805.6	795.2
12.5°	974.8	1080.2	1141.3	1143.9	1130.9	1037.2	927.9	822.5	774.3	769.1
15°	948.7	1038.5	1075.0	1082.8	1088.0	1035.9	943.5	838.1	787.4	775.6
17.5°	953.9	996.9	1006.0	999.5	1034.6	1037.2	987.8	892.8	835.5	821.2
20°	985.2	969.5	939.6	946.1	985.2	1042.4	1054.1	989.1	924.0	905.8
22.5°	1045.0	968.2	908.4	903.2	953.9	1051.5	1125.7	1091.9	1024.2	1013.8
25°	1133.5	987.8	895.4	885.0	929.2	1060.6	1198.6	1199.9	1146.5	1127.0
27.5°	1219.4	1019.0	894.1	883.7	929.2	1072.4	1248.1	1306.6	1250.7	1229.8
30°	1268.9	1055.4	914.9	895.4	946.1	1082.8	1280.6	1391.2	1341.8	1323.5
32.5°	1314.4	1094.5	937.0	913.6	978.7	1111.4	1310.5	1468.0	1425.0	1402.9
35°	1352.2	1140.0	978.7	942.2	1026.8	1153.0	1347.0	1552.6	1525.2	1497.9
37.5°	1388.6	1185.6	1037.2	1016.4	1107.5	1212.9	1395.1	1641.1	1654.1	1626.8
40°	1440.7	1237.6	1137.4	1120.5	1225.9	1304.0	1453.7	1729.6	1772.5	1742.6
42.5°	1490.1	1304.0	1238.9	1254.6	1369.1	1409.4	1520.0	1810.3	1858.4	1845.4
45°	1535.7	1386.0	1386.0	1423.7	1523.9	1525.2	1570.8	1866.2	1917.0	1910.5
47.5°	1595.5	1487.5	1538.3	1642.4	1695.7	1625.5	1625.5	1919.6	1988.6	1970.3
50°	1654.1	1622.9	1740.0	1835.0	1881.8	1746.5	1681.4	1991.2	2073.1	2057.5
52.5°	1717.9	1754.3	1928.7	2022.4	2049.7	1884.4	1766.0	2062.7	2168.1	2168.1
55°	1820.7	1866.2	2127.8	2205.9	2244.9	1999.0	1874.0	2164.2	2284.0	2290.5
57.5°	1926.1	1974.2	2239.7	2338.6	2389.4	2168.1	2013.3	2299.6	2366.0	2364.7
60°	2036.7	2087.5	2326.9	2424.5	2498.7	2341.2	2178.6	2423.2	2405.0	2392.0
62.5°	2173.4	2173.4	2359.5	2405.0	2494.8	2450.6	2364.7	2493.5	2419.3	2389.4
65°	2239.7	2218.9	2265.8	2231.9	2334.7	2419.3	2506.5	2496.1	2368.6	2319.1
67.5°	2204.6	2078.3	1997.7	1946.9	1969.0	2114.8	2444.0	2372.5	2162.9	2125.2
70°	1963.8	1661.9	1586.4	1505.7	1462.8	1613.7	2112.2	2095.3	1840.2	1805.1
72.5°	1600.7	1199.9	1017.7	1099.7	1058.0	1228.5	1730.9	1478.4	1207.7	1176.5
75°	1328.7	892.8	663.7	665.0	671.5	806.9	1265.0	878.5	663.7	640.3
77.5°	961.7	628.6	536.2	480.2	485.4	515.4	658.5	374.8	305.8	277.2
80°	586.9	389.1	433.4	385.2	372.2	286.3	283.7	54.7	36.4	36.4
82.5°	320.1	247.3	230.3	83.3	128.8	156.2	128.8	2.6	1.3	1.3
85°	162.7	98.9	46.9	14.3	16.9	14.3	2.6	0.0	0.0	0.0
87.5°	5.2	3.9	3.9	2.6	2.6	1.3	1.3	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

**Spectral Parameters**

CCT (K): 3050  
 CIE u': 0.2476  
 CIE v': 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



**Test Conditions**

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			



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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

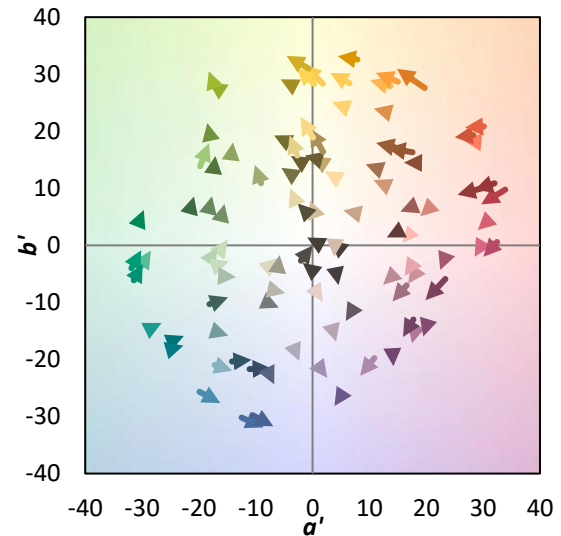
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

**Summary**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



**Color Vector Graphics**



**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)