

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P637988

Luminaire Tested: GWS-SA4D-830-U-SLR-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P637988
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-42)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4D-830-U-SLR-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND
SPILL LIGHT ELIMINATOR RIGHT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10378.5 lumens
Efficiency: N/A
Efficacy: 64.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G1

Input Watts (W): 162.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



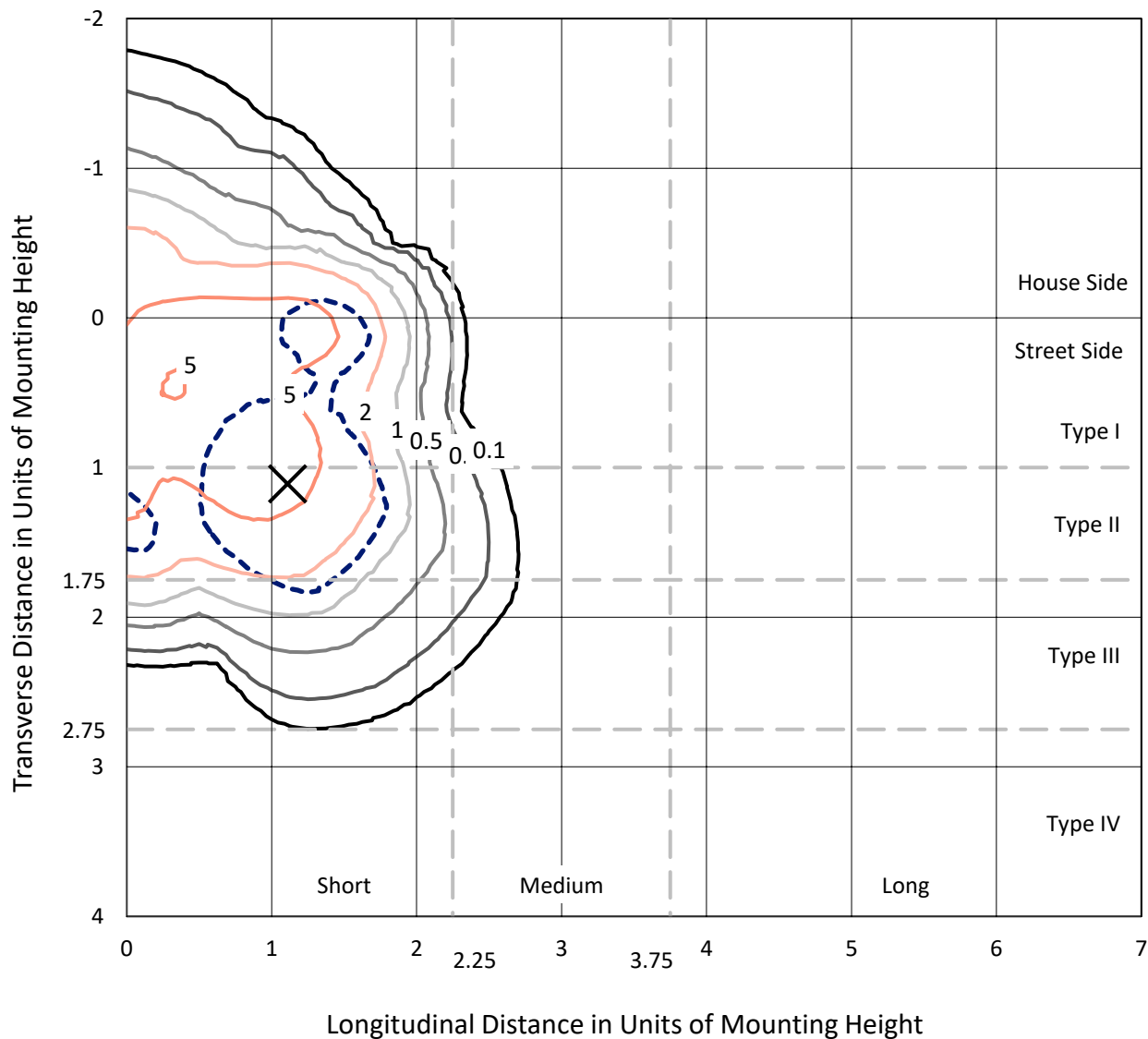
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

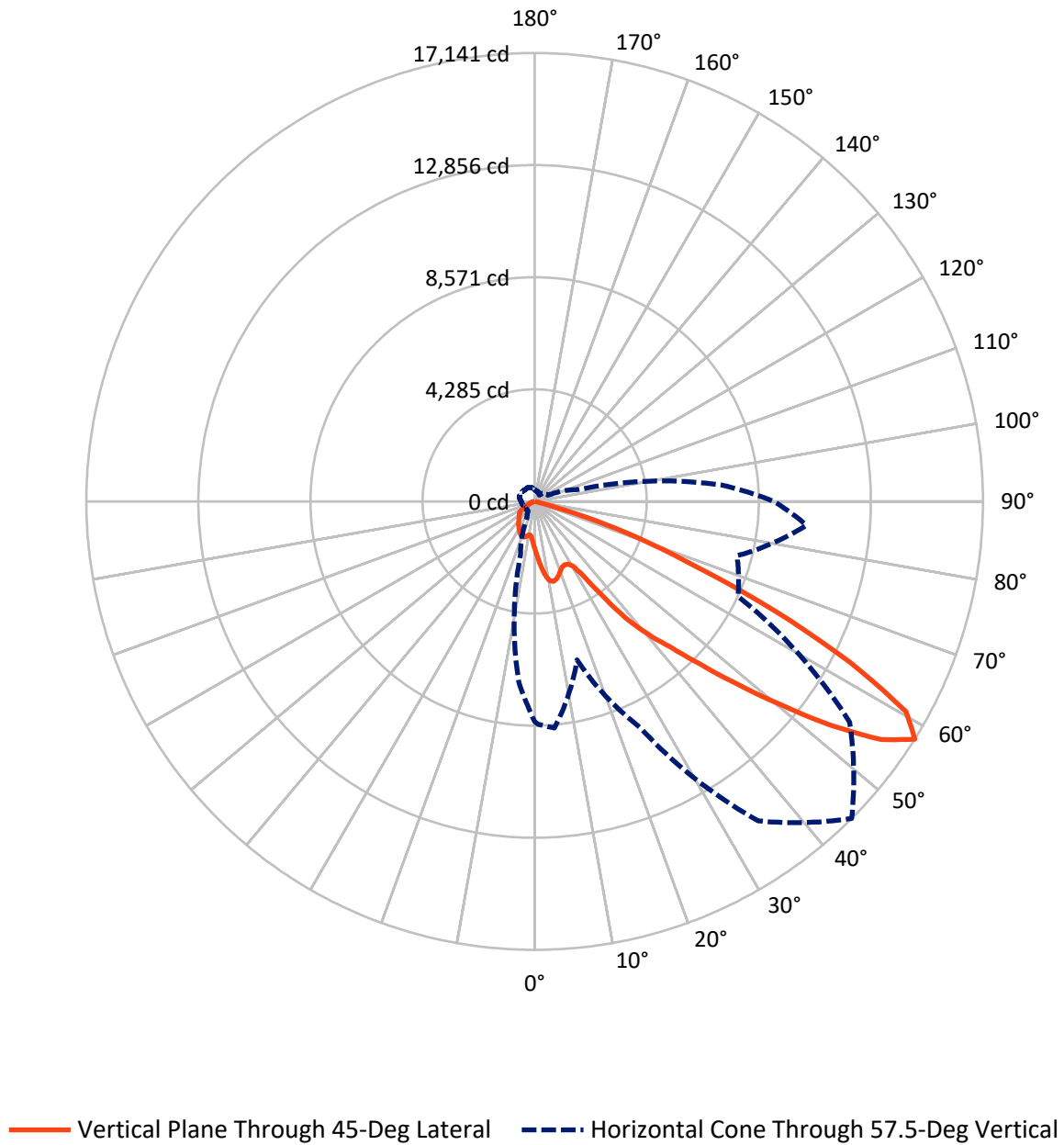


Based on 20 foot mounting height. Maximum calculated value = 8.1 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



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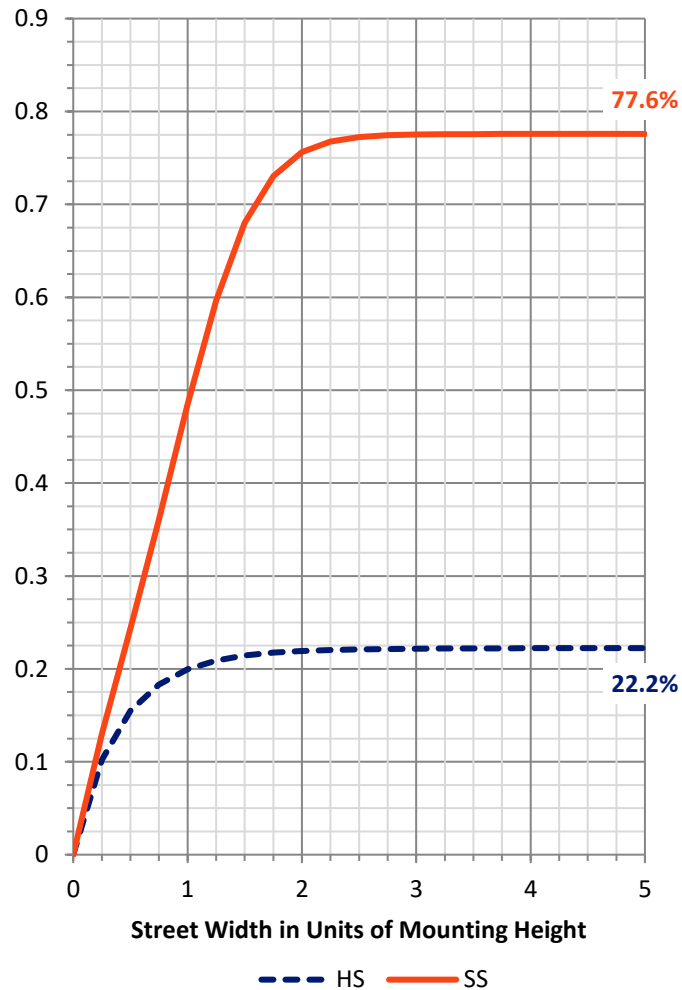
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2324.0	0.0	2324.0
	% Fixture	22.4	0.0	22.4
Street Side	Lumens	8054.5	0.0	8054.5
	% Fixture	77.6	0.0	77.6
Total	Lumens	10378.5	0.0	10378.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.5	1.7
10°-20°	580.5	5.6
20°-30°	943.0	9.1
30°-40°	1457.1	14.0
40°-50°	2336.5	22.5
50°-60°	3193.3	30.8
60°-70°	1546.6	14.9
70°-80°	141.6	1.4
80°-90°	0.4	0.0
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°	10378.5	100.0
0°-180°	10378.5	100.0

Coefficient of Utilization



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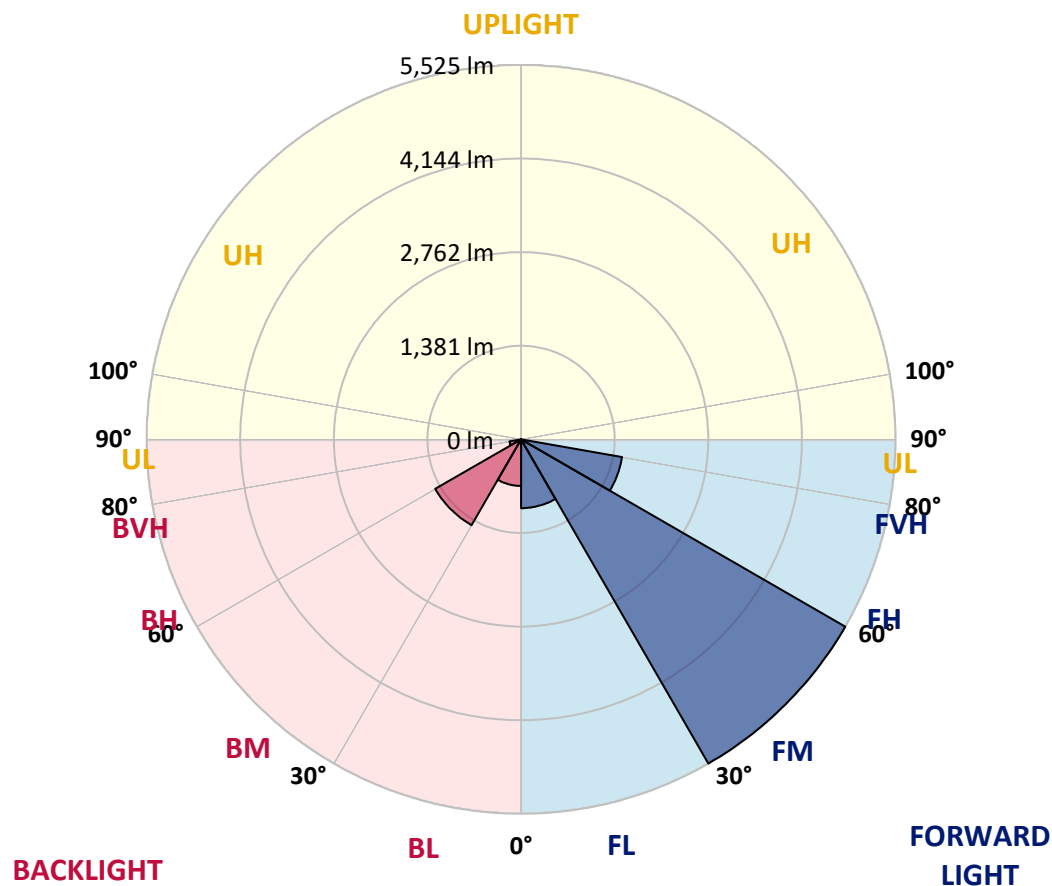
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1015.3	9.8			
FM	(30°-60°)	5524.7	53.2			
FH	(60°-80°)	1514.0	14.6			G1/1800
FVH	(80°-90°)	0.4	0.0			G0/10
BL	(0°-30°)	687.7	6.6	B2/1000		
BM	(30°-60°)	1462.2	14.1	B2/2500		
BH	(60°-80°)	174.2	1.7	B1/500		G1/500
BVH	(80°-90°)	0.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1
2.5°	1976.1	1988.7	2009.6	2054.2	2091.9	2117.0	2128.2	2125.4	2110.0	2098.9	2076.6
5°	2188.1	2188.1	2228.6	2330.4	2408.5	2457.3	2482.4	2467.0	2436.4	2387.5	2312.2
7.5°	2373.6	2380.6	2448.9	2594.0	2712.5	2782.2	2822.7	2814.3	2759.9	2666.5	2515.9
10°	2518.6	2527.0	2617.7	2794.8	2934.2	3005.4	3065.3	3070.9	3010.9	2886.8	2713.9
12.5°	2659.5	2667.9	2762.7	2932.8	3055.6	3084.8	3137.8	3158.8	3143.4	3055.6	2875.7
15°	2811.5	2831.0	2911.9	3038.8	3090.4	3055.6	3090.4	3128.1	3179.7	3171.3	3009.5
17.5°	2960.7	2974.7	3057.0	3101.6	3044.4	2953.8	2970.5	3015.1	3132.3	3246.6	3142.0
20°	3098.8	3118.3	3186.7	3128.1	2955.2	2814.3	2815.7	2874.3	3052.8	3292.6	3277.3
22.5°	3243.8	3273.1	3321.9	3157.4	2872.9	2704.1	2711.1	2764.1	2990.0	3335.9	3430.7
25°	3433.5	3461.4	3493.5	3229.9	2846.4	2649.7	2676.2	2725.0	2990.0	3409.8	3620.4
27.5°	3690.1	3709.6	3711.0	3365.2	2892.4	2658.1	2713.9	2769.7	3079.3	3557.6	3874.2
30°	4012.3	4042.9	4002.5	3575.7	3036.0	2769.7	2852.0	2921.7	3271.7	3807.2	4247.9
32.5°	4404.1	4447.4	4393.0	3888.1	3335.9	3154.6	3303.8	3344.2	3578.5	4168.5	4671.9
35°	4864.4	4900.6	4842.0	4320.5	4036.0	4069.4	4340.0	4288.4	4194.9	4613.3	5167.0
37.5°	5369.2	5402.7	5289.7	4975.9	5070.8	5215.8	5648.1	5471.0	5169.8	5186.5	5703.9
40°	5832.2	5868.5	5691.4	5688.6	5883.8	6148.8	6670.4	6426.3	6016.3	5936.8	6207.4
42.5°	6311.9	6337.0	6176.7	6067.9	6511.4	7056.7	7608.9	7279.8	6576.9	6490.5	6837.7
45°	6996.7	7049.7	6763.8	6254.8	7076.2	8101.2	8871.0	8228.1	6959.0	6889.3	7802.8
47.5°	8003.6	8042.6	7459.7	6371.9	7601.9	9402.4	10448.3	9458.2	7295.1	7136.2	9122.1
50°	8836.2	8862.7	8099.8	6500.2	8161.2	10805.3	12246.0	10916.9	7673.1	7544.8	10353.5
52.5°	9449.8	9550.2	8940.8	6763.8	8896.1	12455.1	14236.0	12644.8	8263.0	8334.1	11374.3
55°	9576.7	9713.4	9515.3	6925.6	9543.2	14135.6	16074.1	14191.4	8851.5	8932.4	11717.4
57.5°	8416.4	8525.2	8689.7	6272.9	9527.9	14905.5	17141.0	14704.6	8583.7	8010.6	10433.0
60°	6305.0	6380.3	6678.7	4794.6	8762.3	14224.9	16309.8	13831.6	7505.7	6112.5	7949.2
62.5°	3738.9	3772.4	4150.3	3105.8	7272.8	12250.1	13526.2	11935.0	5931.2	4111.3	4868.5
65°	1435.0	1421.1	1709.8	1532.7	5348.3	9758.0	10060.6	9098.4	4069.4	1884.1	1856.2
67.5°	221.7	212.0	285.9	453.2	3857.5	6762.4	6638.3	6557.4	2549.3	439.3	383.5
70°	50.2	50.2	61.4	133.9	2356.9	3973.2	4252.1	4054.1	1631.7	93.4	50.2
72.5°	23.7	23.7	29.3	57.2	853.5	1637.3	1907.8	1878.5	529.9	30.7	18.1
75°	8.4	9.8	9.8	12.6	51.6	85.1	195.2	139.5	33.5	0.0	0.0
77.5°	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1
2.5°	2027.7	2018.0	1981.7	1932.9	1885.5	1843.7	1800.4	1748.8	1711.2	1667.9	1654.0
5°	2253.7	2192.3	2093.3	1990.1	1895.3	1814.4	1736.3	1652.6	1591.2	1529.9	1509.0
7.5°	2444.7	2354.1	2193.7	2038.9	1909.2	1794.8	1681.9	1567.5	1478.3	1405.8	1383.4
10°	2616.3	2511.7	2296.9	2105.8	1942.7	1810.2	1673.5	1529.9	1414.1	1327.7	1306.7
12.5°	2764.1	2642.8	2384.8	2156.0	1956.6	1804.6	1672.1	1557.8	1453.2	1354.2	1327.7
15°	2888.2	2754.3	2458.7	2189.5	1935.7	1734.9	1619.1	1601.0	1592.6	1483.9	1432.3
17.5°	3009.5	2858.9	2518.6	2204.9	1877.1	1612.2	1528.5	1610.8	1698.6	1627.5	1561.9
20°	3136.4	2964.9	2580.0	2207.6	1779.5	1474.1	1460.1	1589.8	1701.4	1679.1	1617.7
22.5°	3285.7	3097.4	2656.7	2206.3	1656.8	1356.9	1409.9	1549.4	1640.0	1638.7	1589.8
25°	3501.8	3264.8	2759.9	2214.6	1522.9	1266.3	1354.2	1481.1	1555.0	1552.2	1511.7
27.5°	3733.3	3464.2	2893.8	2235.5	1408.5	1213.3	1288.6	1387.6	1451.8	1449.0	1414.1
30°	4058.3	3694.3	3022.1	2236.9	1326.3	1185.4	1216.1	1284.4	1345.8	1338.8	1312.3
32.5°	4452.9	3953.7	3129.5	2157.4	1274.7	1158.9	1140.8	1175.6	1223.1	1213.3	1206.3
35°	4929.9	4261.9	3221.5	1983.1	1195.2	1105.9	1057.1	1064.1	1097.5	1103.1	1100.3
37.5°	5473.8	4628.7	3335.9	1753.0	1087.8	1029.2	963.7	958.1	977.6	995.7	1009.7
40°	6010.7	5041.5	3490.7	1520.1	990.2	931.6	868.8	854.9	863.3	895.3	924.6
42.5°	6614.6	5519.8	3658.0	1320.7	923.2	824.2	764.2	737.7	761.4	813.1	847.9
45°	7484.8	6190.6	3821.2	1161.7	895.3	729.4	648.5	645.7	672.2	739.1	778.2
47.5°	8706.5	7058.1	3928.6	1037.6	893.9	655.5	559.2	576.0	606.6	672.2	716.8
50°	9897.5	8144.4	3810.0	942.7	864.7	606.6	492.3	525.8	556.4	613.6	659.6
52.5°	10615.7	8728.8	3348.4	853.5	774.0	584.3	426.7	485.3	490.9	542.5	591.3
55°	10540.4	8350.8	2564.7	715.4	640.1	552.3	358.4	437.9	440.7	479.7	521.6
57.5°	9148.6	7169.6	1761.4	580.2	481.1	456.0	295.7	369.6	396.1	419.8	450.5
60°	6818.2	5231.1	785.2	471.4	305.4	308.2	252.4	278.9	319.4	347.3	373.8
62.5°	4017.8	3009.5	319.4	283.1	168.7	193.8	203.6	203.6	228.7	249.6	266.4
65°	1518.7	1052.9	129.7	142.2	87.9	90.6	119.9	147.8	167.4	185.5	207.8
67.5°	266.4	184.1	66.9	53.0	51.6	46.0	61.4	96.2	107.4	121.3	131.1
70°	44.6	37.7	27.9	26.5	23.7	25.1	40.4	68.3	75.3	79.5	83.7
72.5°	12.6	11.2	8.4	7.0	5.6	7.0	25.1	53.0	55.8	58.6	62.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	9.8	37.7	40.4	41.8	46.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	11.2	13.9	11.2
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1
2.5°	1645.6	1617.7	1602.4	1594.0	1594.0	1582.9	1570.3	1566.1	1584.3	1584.3	1614.9
5°	1482.5	1460.1	1435.0	1419.7	1396.0	1400.2	1386.2	1384.8	1403.0	1411.3	1443.4
7.5°	1369.5	1341.6	1326.3	1316.5	1303.9	1298.4	1285.8	1281.6	1291.4	1305.3	1336.0
10°	1294.2	1290.0	1288.6	1295.6	1295.6	1288.6	1277.5	1270.5	1273.3	1299.8	1334.6
12.5°	1313.7	1322.1	1324.9	1336.0	1341.6	1336.0	1327.7	1330.4	1348.6	1397.4	1449.0
15°	1398.8	1391.8	1389.0	1394.6	1398.8	1393.2	1390.4	1411.3	1474.1	1543.8	1602.4
17.5°	1489.4	1444.8	1425.3	1425.3	1428.1	1425.3	1428.1	1468.5	1570.3	1640.0	1683.3
20°	1535.5	1453.2	1422.5	1415.5	1421.1	1422.5	1432.3	1478.3	1589.8	1638.7	1648.4
22.5°	1521.5	1418.3	1383.4	1377.9	1383.4	1389.0	1398.8	1437.8	1542.4	1567.5	1563.3
25°	1451.8	1350.0	1322.1	1322.1	1334.6	1333.2	1337.4	1365.3	1451.8	1467.1	1460.1
27.5°	1363.9	1267.7	1244.0	1257.9	1269.1	1266.3	1267.7	1291.4	1355.5	1359.7	1352.8
30°	1274.7	1191.0	1168.7	1185.4	1200.7	1198.0	1199.4	1223.1	1263.5	1259.3	1249.6
32.5°	1184.0	1122.7	1105.9	1115.7	1139.4	1136.6	1142.2	1167.3	1182.6	1164.5	1153.3
35°	1100.3	1068.3	1055.7	1061.3	1079.4	1083.6	1093.4	1110.1	1110.1	1087.8	1068.3
37.5°	1022.2	1018.1	1009.7	1002.7	1019.5	1032.0	1045.9	1065.5	1037.6	1005.5	987.4
40°	949.7	967.9	956.7	938.6	948.3	966.5	994.3	1009.7	976.2	944.1	913.5
42.5°	882.8	913.5	909.3	887.0	895.3	912.1	944.1	956.7	917.6	881.4	852.1
45°	818.6	861.9	864.7	836.8	845.1	861.9	899.5	903.7	853.5	814.4	793.5
47.5°	762.8	810.3	811.7	790.7	793.5	817.2	852.1	853.5	796.3	760.1	733.6
50°	709.8	764.2	768.4	750.3	753.1	781.0	810.3	804.7	743.3	705.7	682.0
52.5°	645.7	719.6	729.4	721.0	732.2	754.5	772.6	753.1	682.0	644.3	623.4
55°	576.0	672.2	693.1	687.5	700.1	718.2	722.4	709.8	620.6	582.9	563.4
57.5°	495.1	553.7	589.9	578.8	588.5	606.6	619.2	609.4	542.5	513.2	496.5
60°	410.0	449.1	457.4	439.3	430.9	463.0	492.3	479.7	422.6	404.4	384.9
62.5°	299.8	344.5	350.0	326.3	316.6	351.4	376.5	364.0	301.2	281.7	266.4
65°	239.9	281.7	292.9	270.6	265.0	291.5	306.8	276.1	231.5	210.6	193.8
67.5°	157.6	191.1	220.3	219.0	207.8	216.2	205.0	179.9	147.8	136.7	125.5
70°	97.6	117.1	135.3	142.2	140.9	138.1	122.7	104.6	94.8	90.6	85.1
72.5°	75.3	94.8	108.8	113.0	114.4	110.2	97.6	80.9	71.1	65.5	61.4
75°	55.8	71.1	82.3	87.9	90.6	87.9	75.3	64.2	54.4	50.2	46.0
77.5°	19.5	23.7	29.3	32.1	30.7	29.3	26.5	26.5	20.9	19.5	16.7
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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

REPORT NUMBER: P637988

CATALOG NUMBER: GWS-SA4D-830-U-SLR-W-GRSBK

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1	1824.1
2.5°	1649.8	1674.9	1720.9	1762.8	1807.4	1853.4	1903.6	1955.2	1978.9	1976.1
5°	1492.2	1546.6	1621.9	1704.2	1796.2	1895.3	2005.4	2118.4	2167.2	2188.1
7.5°	1393.2	1469.9	1568.9	1673.5	1794.8	1935.7	2101.7	2278.8	2349.9	2373.6
10°	1405.8	1495.0	1577.3	1679.1	1808.8	1991.5	2197.9	2408.5	2492.1	2518.6
12.5°	1507.6	1527.1	1549.4	1633.1	1796.2	2033.3	2285.7	2536.8	2633.0	2659.5
15°	1599.6	1509.0	1467.1	1543.8	1751.6	2062.6	2375.0	2674.8	2780.8	2811.5
17.5°	1603.8	1467.1	1373.7	1433.6	1679.1	2075.2	2462.9	2815.7	2931.4	2960.7
20°	1552.2	1421.1	1301.2	1302.6	1580.1	2072.4	2535.4	2942.6	3072.3	3098.8
22.5°	1476.9	1366.7	1242.6	1199.4	1474.1	2066.8	2614.9	3077.9	3218.7	3243.8
25°	1393.2	1297.0	1186.8	1121.3	1368.1	2072.4	2726.4	3255.0	3409.8	3433.5
27.5°	1302.6	1220.3	1143.6	1090.6	1278.8	2093.3	2860.3	3480.9	3665.0	3690.1
30°	1207.7	1146.4	1115.7	1083.6	1223.1	2098.9	3005.4	3744.5	3977.4	4012.3
32.5°	1114.3	1080.8	1082.2	1087.8	1170.1	2059.8	3137.8	4037.4	4348.4	4404.1
35°	1027.8	1018.1	1045.9	1073.8	1093.4	1959.4	3253.6	4383.2	4807.2	4864.4
37.5°	953.9	962.3	997.1	1025.0	1009.7	1817.2	3407.0	4815.5	5320.4	5369.2
40°	882.8	903.7	944.1	956.7	945.5	1651.2	3591.1	5232.5	5765.3	5832.2
42.5°	817.2	832.6	889.8	892.5	927.4	1482.5	3768.2	5681.6	6277.1	6311.9
45°	764.2	761.4	820.0	838.2	951.1	1295.6	3941.1	6279.9	6946.5	6996.7
47.5°	712.6	709.8	723.8	806.1	960.9	1122.7	4112.7	7155.7	7917.1	8003.6
50°	663.8	668.0	624.8	790.7	907.9	990.2	4190.8	7965.9	8799.9	8836.2
52.5°	620.6	605.3	529.9	740.5	794.9	864.7	3969.0	8334.1	9346.6	9449.8
55°	559.2	474.2	436.5	601.1	627.6	754.5	3250.8	8120.7	9394.0	9576.7
57.5°	478.3	372.4	371.0	443.5	443.5	700.1	2082.1	6938.1	8095.6	8416.4
60°	368.2	288.7	306.8	308.2	284.5	510.4	1168.7	5026.1	5985.6	6305.0
62.5°	262.2	220.3	231.5	184.1	163.2	255.2	560.6	2893.8	3694.3	3738.9
65°	175.7	149.2	121.3	101.8	100.4	108.8	231.5	1045.9	1271.9	1435.0
67.5°	115.8	90.6	64.2	64.2	72.5	72.5	87.9	172.9	242.7	221.7
70°	75.3	62.8	40.4	39.0	47.4	47.4	44.6	47.4	50.2	50.2
72.5°	55.8	47.4	23.7	20.9	26.5	27.9	25.1	23.7	23.7	23.7
75°	41.8	33.5	13.9	9.8	12.6	16.7	13.9	9.8	9.8	8.4
77.5°	16.7	12.6	5.6	4.2	7.0	9.8	8.4	4.2	2.8	2.8
80°	1.4	2.8	2.8	2.8	4.2	5.6	7.0	2.8	1.4	1.4
82.5°	0.0	1.4	1.4	1.4	2.8	4.2	5.6	2.8	1.4	1.4
85°	0.0	0.0	0.0	0.0	2.8	4.2	2.8	1.4	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	1.4	4.2	2.8	1.4	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

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
 R_f: 81.5
 R_g: 99.2

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



Test Conditions

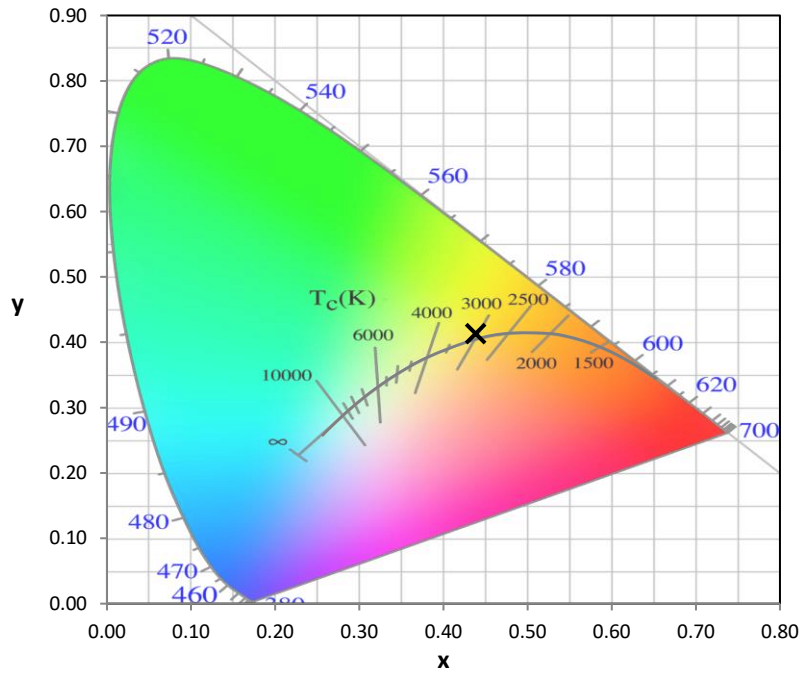
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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

λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/nm	Lumens (ϕ/nm)	λ (nm)	Power W/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			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power W [^] /nm	Lumens (Φ/nm)	λ (nm)	Power W [^] /nm	Lumens (Φ/nm)	λ (nm)	Power W [^] /nm	Lumens (Φ/nm)	λ (nm)	Power W [^] /nm	Lumens (Φ/nm)	λ (nm)	Power W [^] /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			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	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			

REPORT NUMBER: SP1-2408-195-9

TM-30-18

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)