

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: P324658

Luminaire Tested: **GLEON-SA4D-830-U-SLR-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P324658
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA4D-830-U-SLR-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18437 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Medium
BUG Rating: B2 - U0 - G3

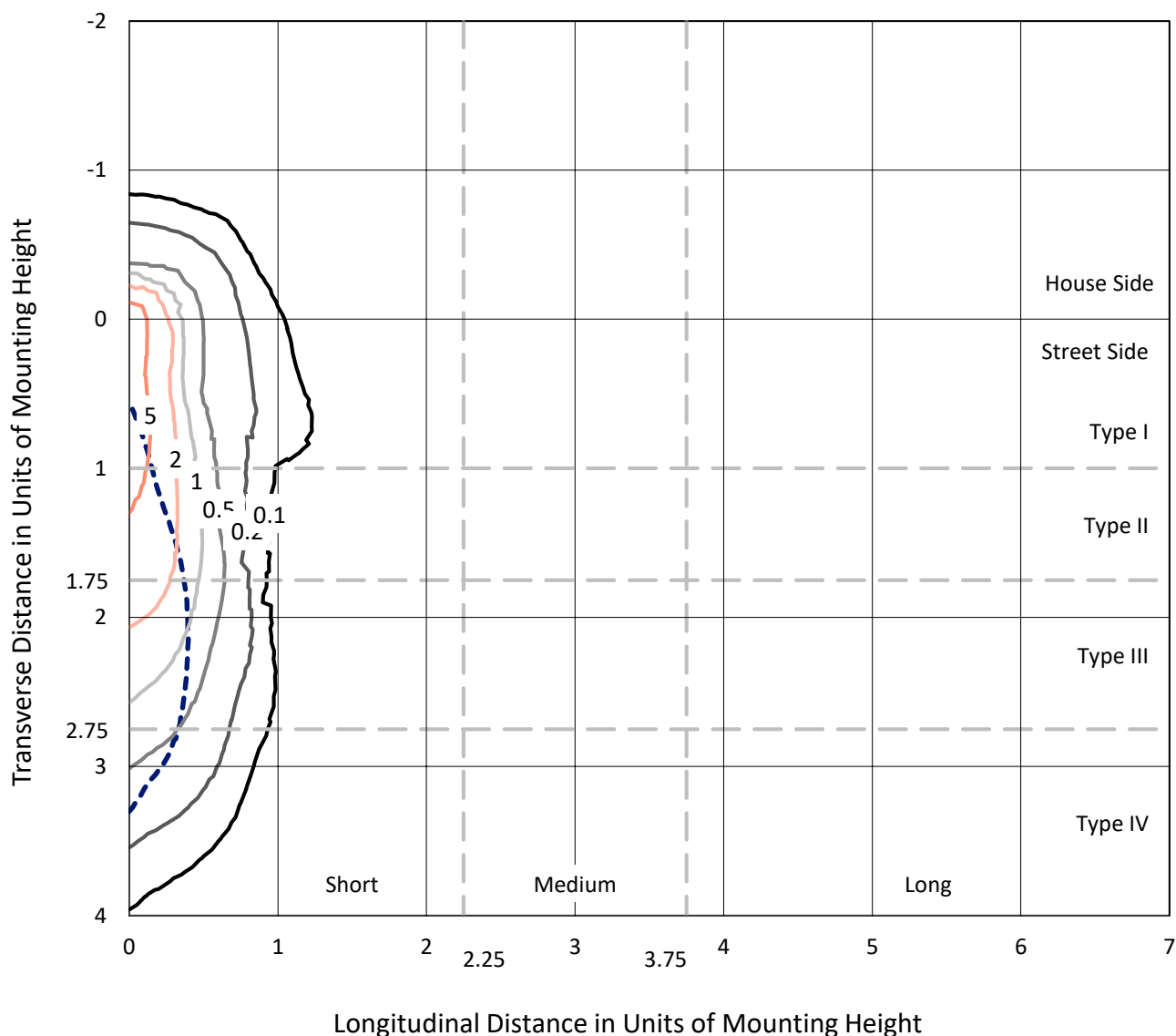
Input Watts (W): 258
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P324658
 CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

Iso-Footcandle Lines of Horizontal Illumination

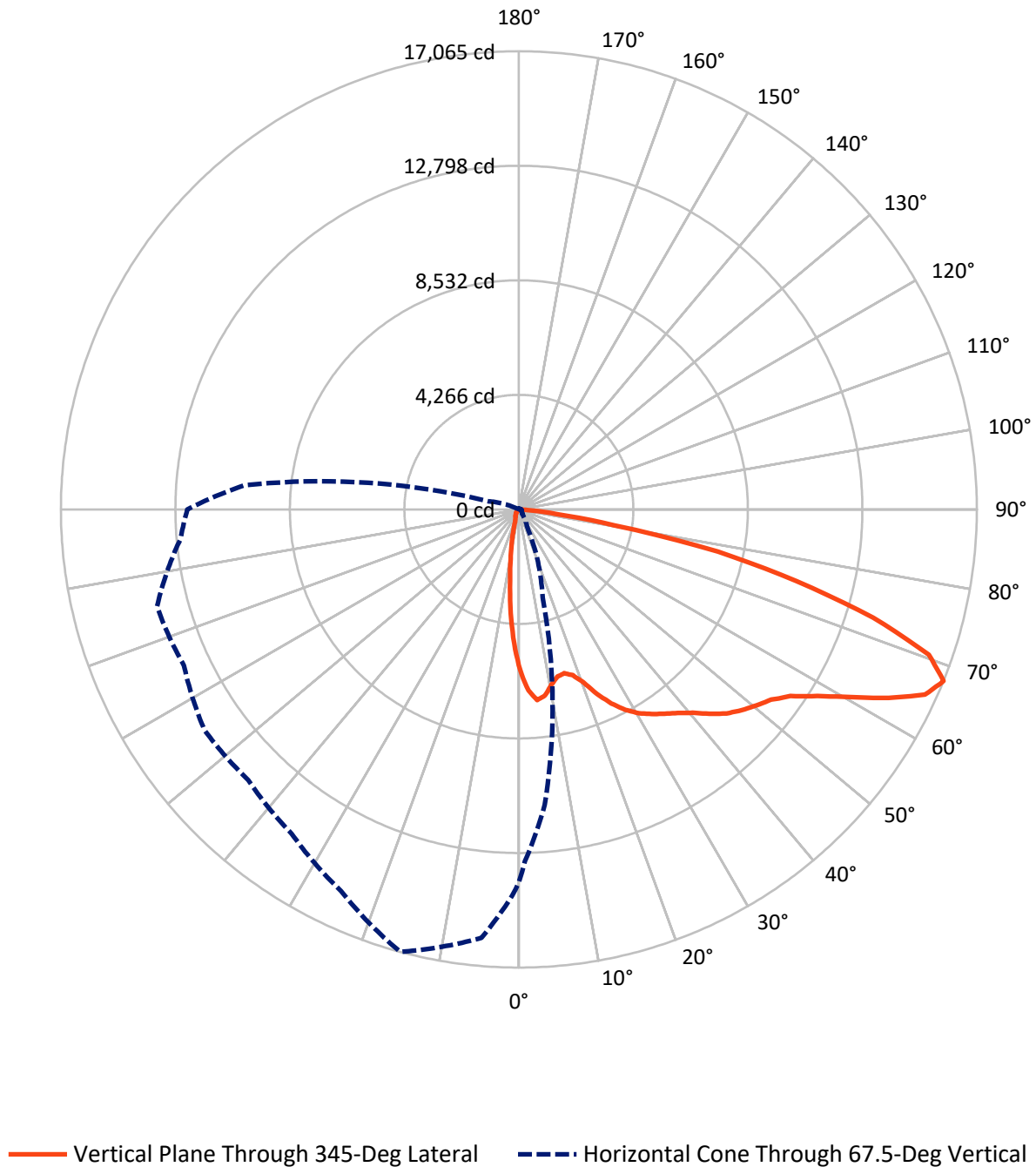
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.6 fc
 Type IV - Medium - N/A

REPORT NUMBER: P324658
CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

Luminous Intensity Polar Plot



REPORT NUMBER: P324658
 CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2231.5	0.0	2231.5
	% Fixture	12.1	0.0	12.1
Street Side	Lumens	16205.5	0.0	16205.5
	% Fixture	87.9	0.0	87.9
Total	Lumens	18437.0	0.0	18437.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	460.9	2.5
10°-20°	917.5	5.0
20°-30°	1302.8	7.1
30°-40°	1924.4	10.4
40°-50°	2775.4	15.1
50°-60°	3896.0	21.1
60°-70°	4541.7	24.6
70°-80°	2321.8	12.6
80°-90°	296.5	1.6
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°	18437.0	100.0
0°-180°	18437.0	100.0

Coefficient of Utilization



REPORT NUMBER: P324658

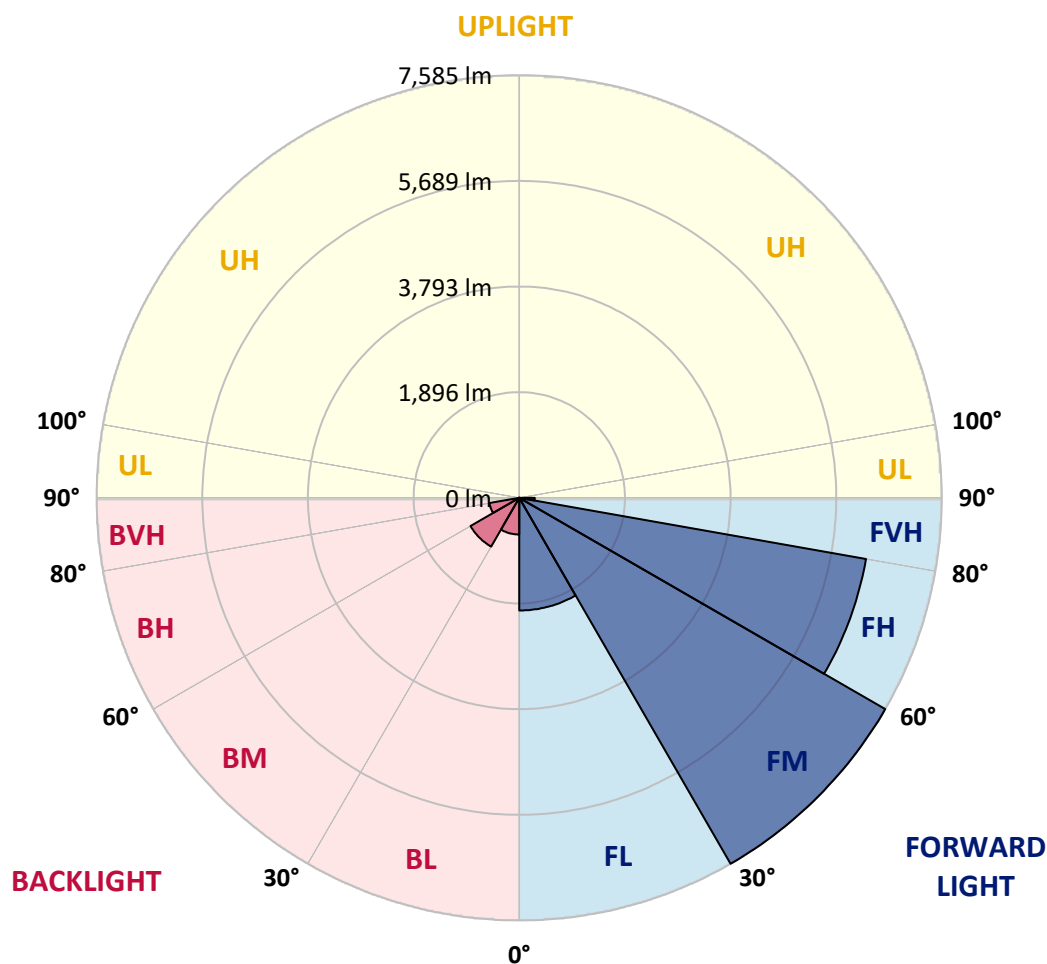
CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2022.2	11.0			
FM	(30°-60°)	7585.3	41.1			
FH	(60°-80°)	6319.6	34.3			G3/7500
FVH	(80°-90°)	278.5	1.5			G3/500
BL	(0°-30°)	659.1	3.6	B2/1000		
BM	(30°-60°)	1010.5	5.5	B2/2500		
BH	(60°-80°)	543.9	2.9	B2/1000		G2/1000
BVH	(80°-90°)	18.0	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Medium





REPORT NUMBER: P324658

CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8
2.5°	6576.2	6525.5	6469.6	6287.1	6117.6	5923.7	5765.6	5655.6	5517.6	5338.5	5293.1
5°	6529.0	6474.9	6299.3	5893.1	5537.7	5191.8	4858.1	4662.5	4419.6	4173.3	4112.2
7.5°	6054.7	5998.0	5744.7	5188.3	4709.6	4210.0	3776.8	3508.6	3234.4	3009.0	2889.4
10°	5561.2	5499.2	5214.5	4539.3	3949.7	3498.2	3180.2	2924.3	2664.9	2423.8	2231.7
12.5°	5221.5	5140.2	4831.0	4065.9	3552.3	3245.7	2948.8	2642.2	2291.1	2032.5	1821.1
15°	5079.1	4986.5	4659.8	3883.3	3411.7	3051.8	2664.9	2288.4	1877.0	1580.9	1387.0
17.5°	5189.1	5068.6	4718.4	3871.1	3235.2	2745.2	2256.1	1814.1	1367.8	1068.2	930.2
20°	5563.0	5404.9	4960.3	3867.6	3021.3	2381.0	1760.9	1261.3	901.4	725.0	652.5
22.5°	6151.7	5942.9	5307.9	3895.6	2800.3	1998.4	1271.7	856.9	676.9	585.2	542.4
25°	6862.7	6620.7	5808.4	3994.3	2606.4	1626.4	924.1	676.9	571.2	504.0	468.2
27.5°	7538.7	7342.2	6440.8	4136.6	2456.1	1325.9	750.3	573.9	488.3	443.7	414.9
30°	8213.9	7966.7	7089.8	4306.1	2275.3	1122.4	659.5	523.2	437.6	390.4	372.1
32.5°	8704.8	8499.5	7598.1	4428.4	2082.3	989.6	589.6	478.6	408.8	360.7	333.7
35°	9282.1	9049.8	8034.0	4455.5	1958.3	905.8	530.2	430.6	354.6	311.8	283.0
37.5°	9905.8	9616.6	8537.1	4396.1	1861.3	864.7	485.6	408.8	331.0	287.4	256.8
40°	10595.8	10269.1	9020.1	4310.5	1766.1	850.7	451.6	392.2	312.7	268.1	236.7
42.5°	11322.5	10937.3	9438.5	4220.5	1705.8	802.7	448.1	375.6	298.7	250.7	219.2
45°	11933.0	11542.6	9868.2	4190.8	1663.0	750.3	462.9	364.2	289.1	236.7	206.1
47.5°	12419.5	12050.1	10308.4	4257.2	1638.6	702.3	421.9	379.1	283.9	224.5	194.8
50°	13000.4	12582.0	10928.6	4455.5	1602.8	654.2	381.7	434.1	283.9	216.6	185.2
52.5°	13728.8	13314.8	11620.3	4762.9	1531.2	587.8	343.3	435.0	286.5	206.1	172.9
55°	14645.1	14344.6	12608.2	5100.1	1416.7	490.0	297.0	373.8	276.0	186.9	161.6
57.5°	15523.8	15278.3	13508.7	5330.6	1263.9	382.6	258.5	301.3	252.4	164.2	144.1
59°	15764.0	15495.8	13838.9	5341.1	1149.5	333.7	239.3	248.9	247.2	153.7	133.6
60°	15764.0	15479.2	13934.1	5285.2	1066.5	306.6	227.1	221.9	257.7	146.7	127.5
62.5°	15478.3	15078.3	13624.9	4907.0	870.0	261.2	198.3	183.4	231.5	131.9	112.7
65°	14884.4	14301.8	12571.5	4223.1	775.6	239.3	171.2	150.2	160.7	116.2	98.7
67.5°	13893.9	13104.3	11052.6	3411.7	738.1	233.2	147.6	127.5	121.4	99.6	86.5
70°	12149.6	11273.6	9208.7	2682.4	705.7	230.6	124.0	107.4	97.8	83.9	73.4
72.5°	8842.8	7929.1	6537.7	2097.1	686.5	235.8	99.6	90.0	80.4	65.5	56.8
75°	5058.1	4459.8	3674.6	1385.3	585.2	225.3	76.9	75.1	57.6	47.2	39.3
77.5°	2613.4	2533.9	2202.0	531.9	280.4	98.7	50.7	43.7	34.1	28.8	23.6
80°	1127.6	1115.4	965.2	153.7	74.2	55.0	28.8	18.3	15.7	12.2	9.6
82.5°	389.6	389.6	343.3	51.5	33.2	27.1	3.5	0.0	0.0	0.0	0.0
85°	78.6	88.2	62.0	0.0	11.4	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: P324658

CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8
2.5°	5238.1	5132.4	5125.4	5059.0	4976.0	4938.5	4916.6	4955.1	5002.2	5007.5	5078.2
5°	4065.9	3955.0	4001.3	3883.3	3906.9	3883.3	3844.9	3851.9	3872.9	3807.4	3888.6
7.5°	2855.3	2771.4	2824.7	2793.3	2835.2	2851.8	2828.2	2793.3	2690.2	2678.0	2748.7
10°	2152.2	2057.0	2000.2	1940.8	1953.9	1981.0	1972.2	1946.9	1881.4	1884.9	1953.0
12.5°	1729.4	1622.9	1510.2	1364.3	1328.5	1348.6	1328.5	1313.7	1250.8	1256.0	1316.3
15°	1311.9	1224.6	1106.7	989.6	925.9	932.0	876.1	836.8	797.5	750.3	787.0
17.5°	885.7	832.4	797.5	762.5	686.5	669.1	598.3	522.3	492.6	470.8	486.5
20°	627.1	598.3	584.3	582.6	538.9	517.1	448.1	400.9	386.1	381.7	391.3
22.5°	524.1	503.1	483.0	471.7	449.8	424.5	372.1	348.5	338.0	332.8	339.8
25°	455.9	440.2	419.3	400.0	391.3	364.2	326.7	309.2	302.2	297.0	300.5
27.5°	405.3	391.3	366.8	354.6	347.6	324.0	291.7	277.8	271.6	269.9	269.0
30°	365.1	352.0	329.3	315.3	303.1	282.1	262.9	248.9	242.8	241.1	239.3
32.5°	324.9	314.4	299.6	285.6	272.5	253.3	236.7	225.3	215.7	214.0	213.1
35°	274.3	263.8	255.9	255.0	242.8	224.5	212.2	197.4	189.5	186.9	187.8
37.5°	243.7	229.7	212.2	218.4	214.9	201.8	185.2	170.3	162.5	160.7	160.7
40°	224.5	209.6	189.5	179.1	189.5	186.9	160.7	145.9	138.0	137.1	135.4
42.5°	206.1	191.3	168.6	151.1	156.3	164.2	138.9	124.9	117.0	115.3	112.7
45°	193.0	177.3	152.0	131.9	121.4	138.0	118.8	101.3	97.0	93.5	91.7
47.5°	180.8	166.0	137.1	114.4	97.0	99.6	95.2	83.0	77.7	74.2	73.4
50°	170.3	154.6	124.0	97.8	80.4	73.4	76.9	65.5	61.1	57.6	55.9
52.5°	158.1	143.2	110.1	84.7	67.3	57.6	58.5	51.5	47.2	44.5	43.7
55°	148.5	133.6	98.7	74.2	59.4	47.2	41.9	40.2	37.6	35.8	34.9
57.5°	135.4	121.4	87.3	62.9	50.7	38.4	32.3	32.3	31.4	29.7	28.8
59°	127.5	115.3	80.4	56.8	46.3	33.2	28.8	29.7	28.8	27.1	26.2
60°	121.4	110.1	75.1	52.4	43.7	30.6	26.2	28.0	27.1	25.3	24.5
62.5°	107.4	99.6	64.6	43.7	38.4	24.5	21.8	23.6	23.6	22.7	21.8
65°	94.3	85.6	55.0	36.7	35.8	21.0	17.5	21.0	21.8	20.1	18.3
67.5°	82.1	73.4	48.0	29.7	33.2	16.6	13.1	17.5	23.6	18.3	16.6
70°	69.9	61.1	37.6	23.6	34.9	11.4	10.5	15.7	28.0	20.1	15.7
72.5°	54.2	47.2	26.2	17.5	37.6	7.9	7.9	13.1	31.4	21.8	14.8
75°	37.6	30.6	15.7	10.5	30.6	5.2	5.2	12.2	29.7	20.1	14.0
77.5°	21.8	16.6	5.2	0.9	15.7	0.0	0.9	8.7	21.0	12.2	6.1
80°	7.9	3.5	0.0	0.0	9.6	0.0	0.0	0.0	1.7	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: P324658

CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8
2.5°	5096.6	5214.5	5320.2	5480.0	5669.5	5887.9	6075.7	6277.5	6467.0	6545.6	6599.8
5°	3905.2	4051.0	4221.4	4456.3	4769.0	5154.2	5514.9	5922.8	6361.3	6580.5	6786.7
7.5°	2761.0	2909.5	3120.8	3370.6	3748.8	4207.4	4679.1	5242.4	5836.4	6183.1	6524.6
10°	1985.3	2167.9	2365.3	2706.8	3091.1	3526.1	4011.7	4640.6	5302.7	5687.0	6098.4
12.5°	1351.2	1559.1	1857.8	2240.4	2692.0	3118.2	3540.1	4140.1	4908.8	5289.6	5730.7
15°	810.6	925.9	1242.0	1684.9	2238.6	2769.7	3231.8	3833.6	4652.8	5119.3	5577.8
17.5°	499.6	552.9	725.0	1088.3	1670.0	2341.7	2975.0	3729.6	4689.5	5257.3	5748.2
20°	398.3	419.3	474.3	642.9	1106.7	1870.0	2685.8	3708.7	4989.1	5687.9	6214.6
22.5°	345.9	366.0	402.7	467.3	696.1	1400.1	2411.6	3727.9	5418.9	6333.4	6948.3
25°	304.8	322.3	357.2	410.5	510.1	986.1	2118.1	3813.5	5978.7	7134.3	7787.6
27.5°	272.5	287.4	319.7	368.6	437.6	688.3	1785.3	3917.4	6642.6	7953.6	8598.2
30°	242.8	255.9	284.7	330.2	379.9	529.3	1420.2	3988.2	7307.3	8598.2	9177.3
32.5°	217.5	227.1	253.3	291.7	330.2	421.9	1079.6	3976.8	7800.8	9134.5	9593.9
35°	191.3	200.9	223.6	256.8	287.4	348.5	849.0	3764.6	8230.5	9690.9	10070.8
37.5°	162.5	174.7	196.5	226.2	247.2	306.6	686.5	3508.6	8666.3	10326.8	10602.8
40°	138.0	150.2	169.4	201.8	214.9	290.9	527.6	3196.8	9156.3	11037.7	11186.2
42.5°	114.4	125.8	145.9	173.8	202.6	250.7	390.4	2840.4	9627.1	11645.7	11718.2
45°	92.6	103.9	124.9	152.9	216.6	207.9	302.2	2458.8	10007.1	12151.4	12175.0
47.5°	73.4	83.9	105.7	144.1	201.8	166.0	215.7	2159.2	10325.9	12546.2	12484.2
50°	56.8	65.5	88.2	165.1	176.4	137.1	163.3	2059.6	10611.5	12790.8	12630.0
52.5°	44.5	52.4	72.5	154.6	137.1	113.5	137.1	2153.0	11002.8	12993.4	12712.1
55°	35.8	43.7	56.8	88.2	93.5	96.1	117.0	2240.4	11678.0	13468.5	13196.9
57.5°	29.7	37.6	46.3	62.0	70.7	81.2	103.9	2250.0	12473.7	14258.1	14001.3
59°	27.1	34.1	41.9	55.0	62.0	74.2	97.8	2197.6	12754.1	14545.5	14417.1
60°	25.3	32.3	39.3	50.7	57.6	69.9	94.3	2147.8	12766.3	14535.0	14594.4
62.5°	21.8	28.8	34.9	42.8	48.9	59.4	84.7	1963.5	12249.2	14059.0	14487.9
65°	19.2	25.3	31.4	36.7	41.9	53.3	76.9	1627.2	11366.2	13291.2	13758.5
67.5°	17.5	21.8	28.8	32.3	37.6	47.2	68.1	1159.9	10263.0	12352.3	12655.4
70°	15.7	21.0	26.2	29.7	34.1	41.1	58.5	666.4	8666.3	10977.5	11193.2
72.5°	14.8	20.1	23.6	28.0	30.6	36.7	53.3	313.6	6345.6	8793.9	9357.2
75°	13.1	18.3	21.8	26.2	28.8	33.2	45.4	150.2	4220.5	6363.9	7004.2
77.5°	7.9	14.8	20.1	23.6	25.3	28.8	37.6	86.5	2693.7	4404.8	5188.3
80°	0.0	5.2	14.8	20.1	21.8	24.5	28.8	68.1	1441.2	2516.4	3020.4
82.5°	0.0	0.0	10.5	15.7	14.8	16.6	21.8	42.8	649.8	1644.7	1853.5
85°	0.0	0.0	3.5	12.2	10.5	7.9	14.8	14.8	142.4	832.4	1038.5
87.5°	0.0	0.0	0.0	0.9	5.2	3.5	6.1	1.7	0.9	62.0	251.6
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: P324658

CATALOG NUMBER: GLEON-SA4D-830-U-SLR-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8	6005.8
2.5°	6789.3	6853.9	6963.1	7014.6	6989.3	6881.9	6753.5	6622.5	6545.6	6576.2
5°	7206.8	7539.6	7731.7	7795.5	7689.0	7447.9	7132.6	6716.8	6569.2	6529.0
7.5°	7206.8	7833.1	8229.6	8299.5	8061.9	7589.4	6998.1	6349.1	6133.3	6054.7
10°	6953.5	7806.0	8358.9	8469.8	8137.9	7431.3	6639.1	5898.4	5642.5	5561.2
12.5°	6667.9	7585.9	8168.5	8321.3	8048.8	7274.1	6390.1	5593.6	5292.2	5221.5
15°	6492.3	7315.1	7797.3	7908.2	7792.9	7182.4	6330.7	5501.8	5147.2	5079.1
17.5°	6555.2	7105.5	7279.3	7343.9	7421.7	7150.0	6492.3	5702.7	5253.8	5189.1
20°	6791.9	6884.5	6794.5	6875.8	7085.4	7181.5	6877.5	6188.4	5649.5	5563.0
22.5°	7193.7	6770.1	6517.7	6550.0	6805.0	7285.4	7466.2	6881.9	6260.0	6151.7
25°	7661.9	6862.7	6363.9	6335.1	6597.1	7422.5	8004.3	7636.5	6982.3	6862.7
27.5°	8250.6	7070.5	6332.5	6303.7	6524.6	7550.9	8451.5	8382.5	7743.1	7538.7
30°	8704.8	7274.9	6425.9	6359.6	6597.1	7640.0	8810.5	9015.7	8349.3	8213.9
32.5°	9030.6	7516.0	6577.9	6481.8	6801.5	7793.8	9087.3	9595.7	8910.0	8704.8
35°	9278.6	7778.0	6823.4	6665.3	7082.8	8027.0	9346.8	10213.2	9506.6	9282.1
37.5°	9511.0	8145.8	7206.8	7018.1	7523.9	8402.6	9621.0	10913.7	10173.9	9905.8
40°	9835.0	8562.4	7798.1	7630.4	8265.4	8914.4	9963.4	11643.9	10932.9	10595.8
42.5°	10159.1	9009.6	8403.4	8448.8	9190.4	9536.3	10405.4	12416.0	11682.3	11322.5
45°	10455.2	9470.8	9265.5	9475.1	10049.0	10218.5	10844.7	12862.4	12280.7	11933.0
47.5°	10718.9	10047.3	10122.4	10680.5	11025.5	10836.0	11173.1	13247.6	12726.1	12419.5
50°	11025.5	10793.2	11251.7	12041.3	12149.6	11395.0	11471.8	13703.5	13246.7	13000.4
52.5°	11360.9	11579.3	12502.5	13198.7	13163.7	12002.0	11772.3	14214.5	13960.3	13728.8
55°	11741.7	12214.3	13603.9	14281.7	14252.0	12679.8	12270.2	14846.0	14854.7	14645.1
57.5°	12306.9	12761.1	14351.6	15157.8	15207.6	13462.4	13113.9	15553.5	15663.5	15523.8
59°	12712.1	13115.7	14647.7	15523.8	15726.4	14067.7	13730.6	15964.0	15891.5	15764.0
60°	13012.6	13341.0	14794.4	15715.1	16027.7	14478.3	14185.6	16205.1	15918.6	15764.0
62.5°	13755.9	13831.9	15059.1	15931.7	16374.5	15390.1	15466.1	16615.6	15730.8	15478.3
65°	14102.7	14142.0	15055.6	15543.9	16039.1	16100.2	16627.8	16627.8	15272.2	14884.4
67.5°	13957.7	13768.1	14308.8	14258.1	14752.5	15678.4	17064.5	16018.1	14395.3	13893.9
70°	12778.5	12049.2	11809.0	11830.8	12209.0	13637.1	16199.8	14224.1	12735.7	12149.6
72.5°	10632.5	8883.0	8289.9	8966.8	9065.5	10480.5	13805.7	10711.9	9392.2	8842.8
75°	8551.9	6261.7	5297.5	6011.9	6179.6	7669.7	10679.6	6671.4	5486.1	5058.1
77.5°	6143.8	4494.8	3801.2	3751.5	3968.1	4864.2	7578.0	3357.5	2800.3	2613.4
80°	3490.3	2958.4	3185.5	3005.5	3114.7	3041.3	3600.3	1472.6	1206.2	1127.6
82.5°	2106.8	1748.6	1893.6	1576.6	1995.0	1737.3	1387.0	471.7	409.6	389.6
85°	1370.4	955.6	497.9	333.7	687.4	1110.2	310.1	128.4	98.7	78.6
87.5°	472.5	243.7	24.5	10.5	73.4	207.0	11.4	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

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
 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

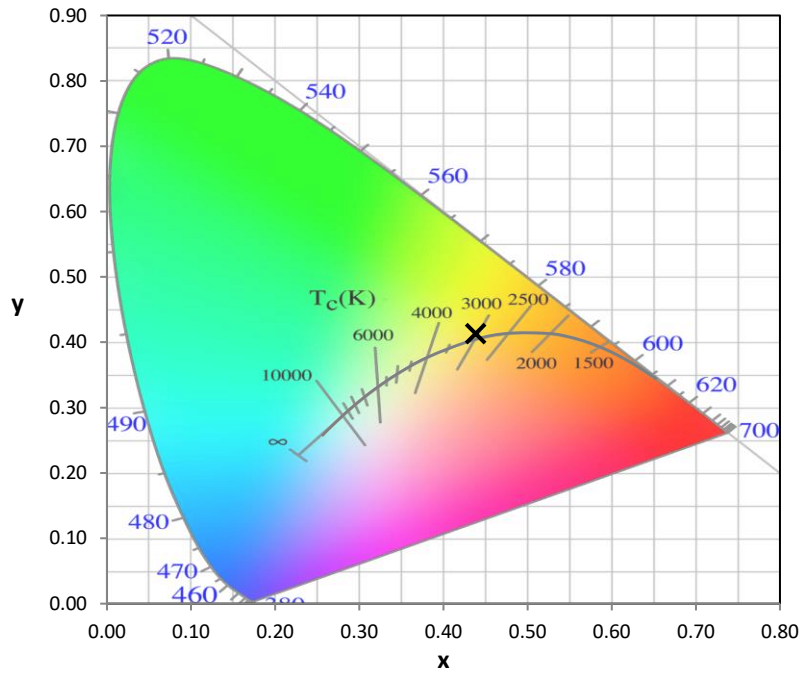
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

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

REPORT NUMBER: SP1-2408-195-9

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 $\text{W}^\wedge/\text{nm}$	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

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)