

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



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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P633036

Luminaire Tested: GWS-SA2D-830-U-SLL-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633036  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-40)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2D-830-U-SLL-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

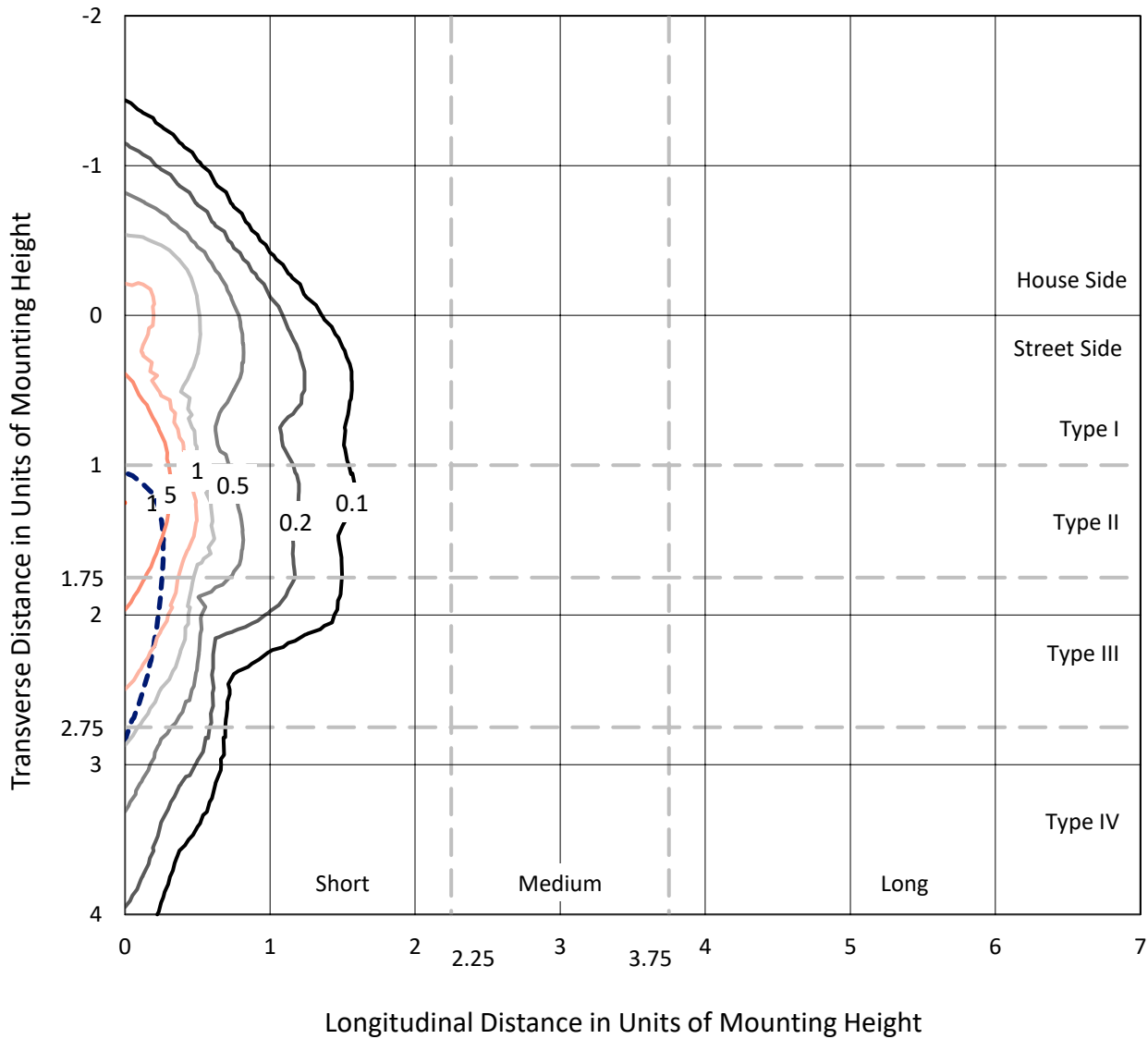
Lumens per Lamp: N/A  
Luminaire Lumens: 5616 lumens  
Efficiency: N/A  
Efficacy: 68.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 82.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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

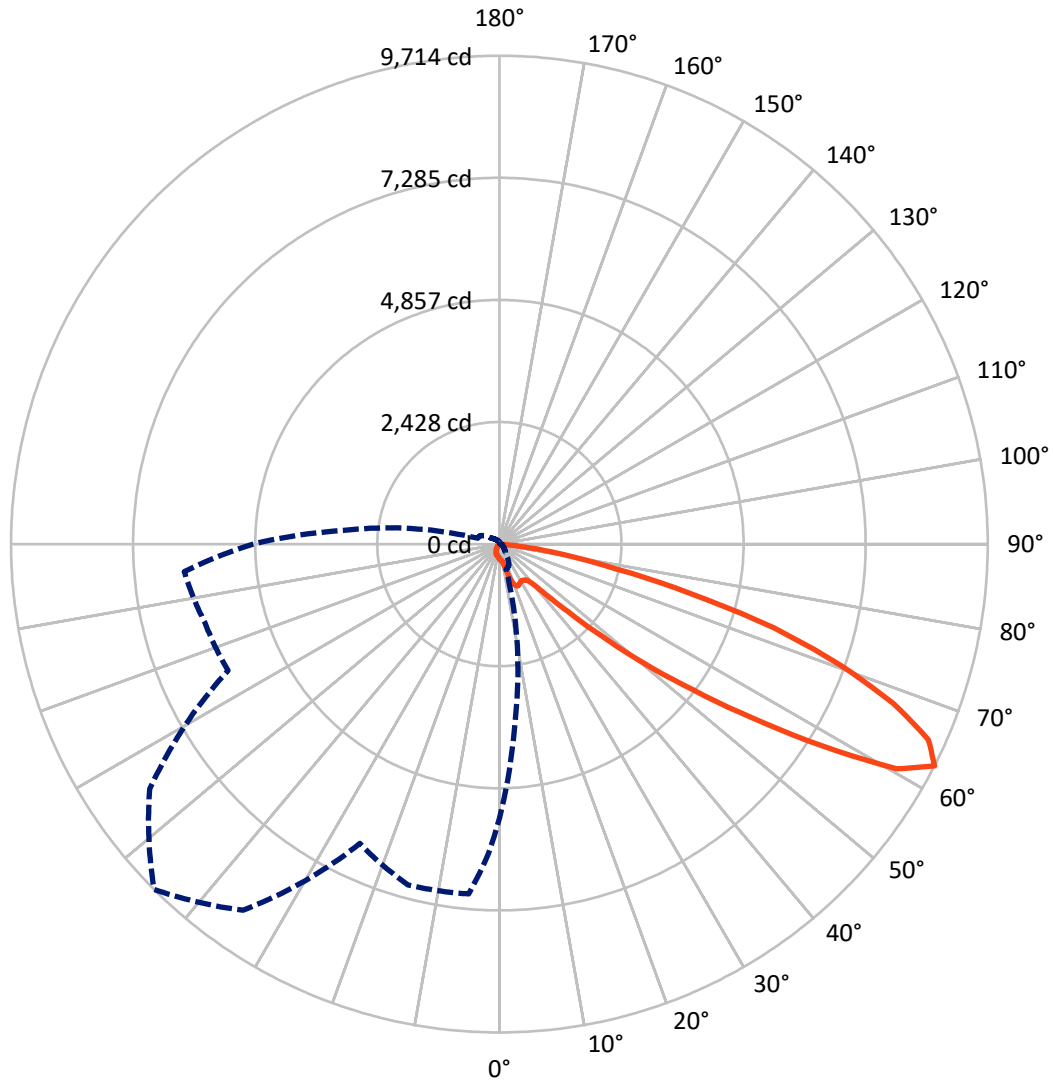
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	652.5	0.0	652.5
	% Fixture	11.6	0.0	11.6
<b>Street Side</b>	Lumens	4963.5	0.0	4963.5
	% Fixture	88.4	0.0	88.4
<b>Total</b>	Lumens	5616.0	0.0	5616.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.1	0.4
10°-20°	86.2	1.5
20°-30°	194.7	3.5
30°-40°	335.5	6.0
40°-50°	632.9	11.3
50°-60°	1413.0	25.2
60°-70°	1889.9	33.7
70°-80°	947.7	16.9
80°-90°	90.8	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°	5616.0	100.0
0°-180°	5616.0	100.0

**Coefficient of Utilization**

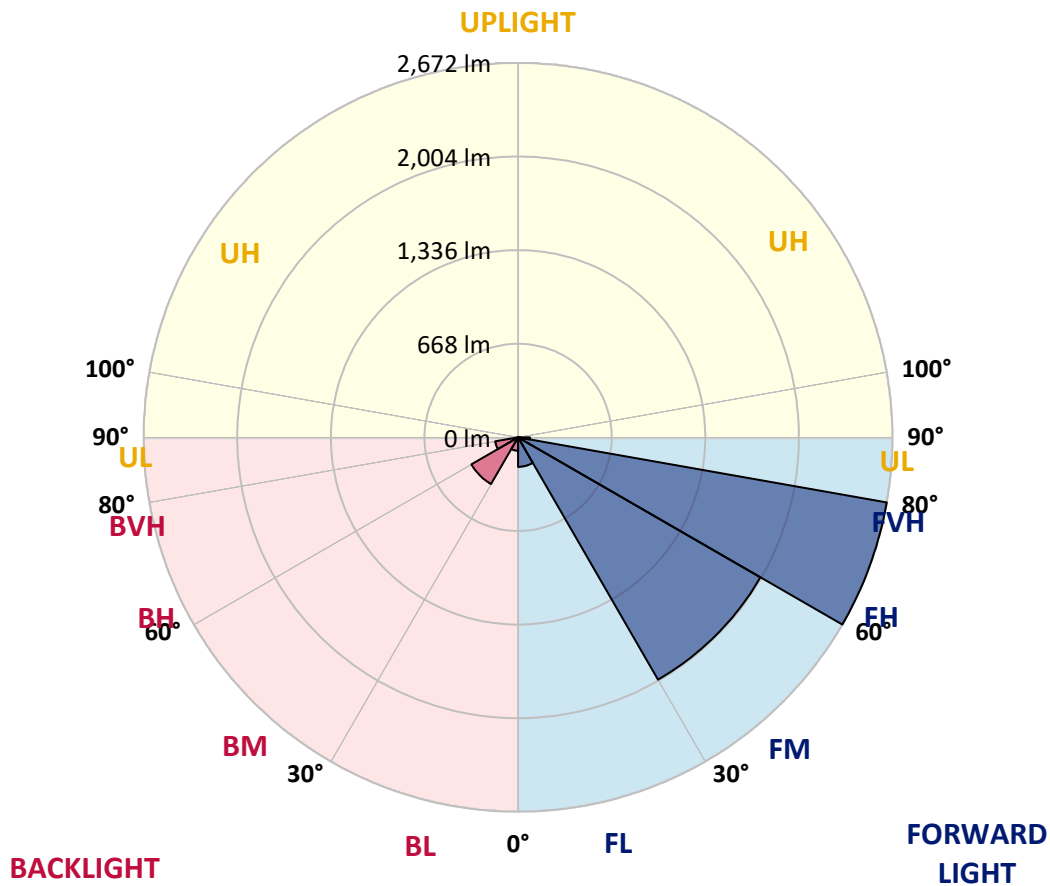


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	210.3	3.7			
FM (30°-60°)	1996.7	35.6			
FH (60°-80°)	2671.7	47.6			G2/5000
FVH (80°-90°)	84.8	1.5			G1/100
BL (0°-30°)	95.8	1.7	B0/110		
BM (30°-60°)	384.8	6.9	B1/1000		
BH (60°-80°)	165.9	3.0	B1/500		G1/500
BVH (80°-90°)	6.0	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3
2.5°	287.9	287.3	285.9	281.9	278.6	276.6	272.6	272.6	272.0	270.6	268.0
5°	278.6	276.0	273.3	266.0	258.0	253.4	248.0	247.4	247.4	246.0	245.4
7.5°	264.0	261.3	258.0	246.0	238.7	234.1	229.4	228.7	226.8	226.8	226.8
10°	256.0	252.0	246.7	233.4	226.1	222.1	218.8	216.8	215.4	213.5	212.8
12.5°	273.3	266.0	254.7	230.7	220.8	215.4	211.5	210.1	206.1	203.5	201.5
15°	327.2	309.2	286.6	236.7	218.8	210.8	205.5	202.8	199.5	194.8	191.5
17.5°	415.6	389.7	351.8	256.0	216.8	206.8	200.2	195.5	190.8	185.5	181.5
20°	538.0	499.4	454.2	291.3	216.8	202.1	194.2	188.2	181.5	175.6	170.9
22.5°	693.6	655.0	577.9	351.1	219.4	196.2	186.9	178.9	170.9	165.6	160.3
25°	867.8	813.2	741.4	423.6	226.8	188.2	178.2	170.2	162.9	156.3	150.3
27.5°	1061.9	1002.8	907.0	526.7	242.7	180.2	168.9	161.6	154.9	148.3	140.3
30°	1240.8	1205.6	1107.8	650.3	268.6	174.9	161.6	154.9	148.3	139.6	132.3
32.5°	1455.6	1393.1	1312.6	791.3	303.2	169.6	155.6	146.3	141.0	133.0	125.0
35°	1671.7	1618.5	1512.8	964.9	341.8	164.2	148.3	139.6	135.0	125.7	117.0
37.5°	1894.5	1882.5	1778.1	1157.0	379.7	158.3	139.6	134.3	129.7	119.0	109.1
40°	2113.9	2092.0	1995.6	1376.5	403.0	151.6	132.3	129.0	123.7	111.7	100.4
42.5°	2324.0	2307.4	2213.7	1586.6	399.6	145.6	125.0	121.0	117.0	105.1	91.1
45°	2582.1	2554.8	2436.4	1742.2	365.7	152.3	117.7	111.0	110.4	99.1	81.8
47.5°	3064.8	2975.0	2774.2	1861.9	331.8	169.6	109.7	101.7	106.4	93.1	72.5
50°	3741.1	3635.4	3344.8	1955.0	331.2	192.2	108.4	93.1	103.1	88.4	64.5
52.5°	4420.7	4234.5	3881.4	2004.9	355.8	208.8	120.4	84.5	99.1	83.8	58.5
55°	5071.7	4685.3	4106.1	1840.0	375.0	226.8	142.3	79.8	91.8	78.5	55.2
57.5°	5692.1	5047.7	4203.9	1455.6	439.5	234.1	155.6	81.8	81.1	71.8	52.5
60°	5777.2	5030.4	4006.4	846.5	484.8	221.4	150.3	91.1	71.2	63.8	47.9
62.5°	5455.4	4696.0	3556.2	528.0	450.2	216.8	133.7	103.7	64.5	56.5	41.9
65°	4966.6	4171.3	2965.1	340.5	341.1	240.7	117.0	101.7	60.5	49.9	35.9
67.5°	4202.6	3491.1	2336.0	228.1	192.8	205.5	102.4	69.8	59.2	42.6	27.9
70°	3067.5	2485.0	1520.8	152.3	115.0	164.2	85.8	49.9	55.9	35.2	19.9
72.5°	2242.3	1669.7	849.2	99.7	65.2	95.8	63.2	35.9	43.2	25.9	14.0
75°	1613.9	1149.1	484.8	63.8	43.2	52.5	41.2	24.6	27.9	20.6	12.6
77.5°	776.7	559.9	220.1	35.2	29.3	26.6	21.9	15.3	17.3	18.6	11.3
80°	29.3	21.9	16.6	17.3	18.6	12.0	10.0	8.0	10.0	12.6	6.0
82.5°	0.0	0.0	0.0	2.0	2.7	3.3	4.0	3.3	4.0	4.7	0.7
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°	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3
2.5°	270.0	268.6	270.0	271.3	272.6	274.0	272.0	273.3	274.6	271.3	272.6
5°	248.7	248.0	252.0	254.0	256.7	258.0	256.7	256.7	256.0	252.0	252.0
7.5°	230.1	230.7	234.1	238.7	242.0	244.0	242.7	242.0	240.1	234.1	234.1
10°	216.1	216.1	221.4	225.4	230.1	232.1	230.7	228.7	226.8	220.8	220.1
12.5°	204.8	204.8	208.8	215.4	220.8	223.4	222.8	220.1	216.8	210.8	210.1
15°	194.2	193.5	199.5	205.5	212.8	216.1	214.8	212.8	206.8	201.5	200.2
17.5°	183.5	182.9	188.2	196.2	204.1	208.8	208.1	203.5	198.2	191.5	190.2
20°	172.9	171.6	178.2	186.2	194.2	198.8	197.5	193.5	186.9	180.2	178.9
22.5°	162.3	161.6	166.2	172.9	180.2	184.2	183.5	180.2	173.6	167.6	167.6
25°	150.3	150.3	153.6	158.3	163.6	165.6	166.2	164.9	160.9	157.6	157.6
27.5°	140.3	138.3	139.6	141.0	143.6	147.0	147.0	148.3	149.0	147.6	148.3
30°	132.3	129.0	127.0	124.3	123.0	124.3	125.7	130.3	135.0	137.6	139.0
32.5°	123.0	119.0	113.7	106.4	101.7	100.4	104.4	113.0	121.7	127.7	131.0
35°	113.7	108.4	98.4	87.8	81.8	79.8	84.5	94.4	107.1	117.7	122.4
37.5°	104.4	97.1	83.1	70.5	63.8	62.5	67.2	77.8	92.4	107.1	113.0
40°	93.8	85.1	68.5	55.2	49.9	48.5	52.5	63.2	78.5	95.1	104.4
42.5°	83.1	72.5	55.2	43.9	38.6	38.6	43.9	51.9	65.8	83.8	95.1
45°	72.5	61.2	45.2	35.2	31.9	32.6	35.9	43.9	55.2	73.8	84.5
47.5°	62.5	52.5	37.2	29.3	26.6	27.3	31.3	37.9	47.2	63.8	75.1
50°	53.9	44.6	32.6	24.6	22.6	23.9	27.9	33.9	41.9	56.5	65.8
52.5°	48.5	39.9	29.9	21.3	19.9	21.3	25.3	30.6	37.9	49.9	59.2
55°	45.9	39.2	29.9	19.3	17.3	18.6	22.6	27.9	33.9	45.2	53.2
57.5°	45.2	40.6	31.9	17.3	14.6	16.0	19.9	25.3	31.3	41.2	47.9
60°	42.6	38.6	31.3	14.0	11.3	13.3	16.6	21.9	28.6	38.6	44.6
62.5°	37.2	33.9	27.3	11.3	8.6	10.0	14.0	19.3	25.9	35.2	41.9
65°	30.6	27.3	21.3	7.3	5.3	6.6	10.6	16.6	22.6	31.9	37.9
67.5°	22.6	19.3	14.6	4.7	2.7	4.7	8.6	14.0	20.6	28.6	34.6
70°	14.0	11.3	8.0	2.7	2.0	4.0	8.0	13.3	18.6	26.6	32.6
72.5°	8.0	5.3	3.3	1.3	2.0	4.0	8.0	13.3	18.0	25.3	30.6
75°	6.0	3.3	1.3	0.7	1.3	3.3	7.3	12.0	17.3	23.9	29.3
77.5°	4.0	2.0	0.7	0.0	0.7	2.7	6.6	11.3	16.0	22.6	27.9
80°	0.7	0.0	0.0	0.0	0.0	2.0	6.0	10.0	14.6	19.9	24.6
82.5°	0.0	0.0	0.0	0.0	0.0	0.7	4.7	8.6	12.6	16.6	19.9
85°	0.0	0.0	0.0	0.0	0.0	0.0	2.7	6.6	10.0	12.6	14.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	6.6	8.0	9.3
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°	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3
2.5°	272.0	276.0	276.0	278.6	281.9	287.9	291.3	295.9	299.2	302.6	303.9
5°	251.4	252.0	252.7	254.0	258.0	264.7	270.6	278.0	286.6	293.2	297.2
7.5°	234.1	234.1	234.1	236.1	240.1	244.7	250.7	260.7	270.6	278.6	285.3
10°	219.4	221.4	222.1	225.4	230.1	236.1	242.7	251.4	262.7	273.3	285.3
12.5°	210.1	212.1	215.4	218.8	223.4	230.1	237.4	248.7	272.0	293.9	319.2
15°	201.5	204.1	208.1	212.8	218.1	225.4	233.4	256.7	311.2	352.4	392.3
17.5°	192.2	196.2	201.5	206.1	212.8	220.8	230.7	276.0	383.0	451.5	519.3
20°	180.2	185.5	191.5	198.8	206.8	216.1	230.7	315.9	486.8	585.2	674.9
22.5°	168.9	174.2	181.5	190.8	200.2	209.5	234.1	376.4	620.4	744.8	858.5
25°	159.6	166.2	173.6	181.5	192.2	202.8	242.0	461.5	781.3	941.6	1022.0
27.5°	150.9	158.9	166.2	172.9	182.2	194.2	260.0	575.2	971.5	1134.4	1197.6
30°	142.3	151.6	158.9	165.6	174.9	187.5	287.3	720.2	1183.0	1341.2	1347.9
32.5°	135.0	143.6	152.3	158.9	167.6	182.2	325.2	889.7	1399.7	1552.7	1490.2
35°	127.0	137.0	145.0	152.3	161.6	177.5	369.1	1072.6	1618.5	1746.9	1631.8
37.5°	119.0	130.3	140.3	145.6	154.9	172.9	401.0	1263.4	1841.9	1936.4	1756.2
40°	111.7	124.3	135.7	141.0	145.6	166.9	405.6	1458.9	2068.7	2123.2	1873.2
42.5°	103.7	117.7	127.7	135.0	139.0	162.9	377.7	1623.8	2258.9	2309.4	2026.1
45°	95.1	111.7	119.7	125.0	133.0	165.6	341.8	1751.5	2476.3	2563.4	2278.2
47.5°	86.4	105.1	111.7	115.7	126.3	181.5	328.5	1836.6	2834.7	3015.6	2703.1
50°	78.5	99.1	106.4	105.7	125.0	202.1	343.1	1901.1	3373.4	3586.1	3285.6
52.5°	69.8	92.4	101.1	98.4	135.0	218.1	372.4	1952.3	3787.6	4255.1	4068.2
55°	62.5	85.1	93.1	92.4	153.6	230.1	395.0	1682.4	3959.2	4876.8	4950.0
57.5°	57.2	77.1	83.8	95.1	165.6	230.1	456.8	1194.3	3962.5	5334.3	6120.3
60°	52.5	69.8	74.5	104.4	160.9	218.1	452.2	731.5	3652.0	5303.1	6742.7
62.5°	48.5	63.2	69.2	107.1	142.3	216.1	408.3	453.5	3114.7	4899.4	6291.2
65°	45.2	57.9	66.5	98.4	129.0	231.4	275.3	325.8	2526.2	4439.3	5773.2
67.5°	41.9	53.2	70.5	80.5	117.0	206.8	198.8	231.4	1982.9	3934.6	5297.8
70°	39.2	50.5	74.5	65.8	102.4	161.6	141.0	175.6	1518.1	3282.9	4628.1
72.5°	37.2	47.2	62.5	51.9	83.1	125.0	98.4	127.7	992.1	2562.8	3773.0
75°	35.2	43.2	45.9	41.9	61.8	81.8	74.5	85.8	591.2	1873.2	2862.7
77.5°	34.6	40.6	37.2	33.9	41.9	48.5	56.5	57.9	288.6	936.9	1500.2
80°	30.6	36.6	31.9	27.9	28.6	31.9	41.9	38.6	65.8	238.1	400.3
82.5°	23.9	28.6	26.6	23.3	23.3	23.3	27.9	25.9	21.3	107.1	180.9
85°	16.6	19.9	19.9	18.6	18.0	18.0	17.3	16.6	6.0	6.6	10.0
87.5°	11.3	14.0	14.6	14.0	12.0	10.6	9.3	8.0	2.7	0.0	1.3
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°	358°	360°
0°	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3	291.3
2.5°	308.5	310.5	310.5	307.9	305.9	300.6	295.2	289.9	288.6	287.9
5°	308.5	316.5	320.5	319.8	315.2	306.5	295.2	283.3	279.9	278.6
7.5°	303.9	319.2	331.2	333.1	324.5	309.2	288.6	270.6	266.0	264.0
10°	314.5	344.5	368.4	371.7	361.7	331.8	298.6	268.0	260.7	256.0
12.5°	371.7	420.9	450.2	464.1	444.9	407.0	351.8	297.2	280.6	273.3
15°	487.4	557.2	613.1	613.1	595.1	528.0	458.2	369.7	347.1	327.2
17.5°	635.7	723.5	772.7	767.4	740.1	692.9	609.1	482.1	436.2	415.6
20°	804.6	857.1	868.4	865.1	853.1	825.9	768.0	631.7	569.9	538.0
22.5°	950.9	936.9	920.3	907.0	903.7	911.7	903.7	798.6	750.1	693.6
25°	1050.0	970.8	921.0	897.0	908.3	954.2	1004.1	964.9	926.3	867.8
27.5°	1103.8	966.9	895.0	870.4	889.7	954.9	1063.3	1129.8	1089.9	1061.9
30°	1133.1	963.5	878.4	854.5	883.7	965.5	1104.5	1284.0	1285.4	1240.8
32.5°	1175.0	984.8	881.7	859.8	899.0	997.4	1156.4	1441.0	1479.5	1455.6
35°	1222.2	1017.4	897.0	877.1	925.6	1040.0	1214.2	1599.2	1679.7	1671.7
37.5°	1266.8	1054.0	932.9	913.7	966.2	1076.6	1270.1	1754.8	1866.6	1894.5
40°	1313.3	1105.2	1043.3	1061.9	1091.2	1134.4	1320.0	1889.8	2072.0	2113.9
42.5°	1423.0	1282.7	1377.1	1412.4	1416.4	1327.3	1429.0	2062.7	2274.2	2324.0
45°	1667.7	1598.6	1869.2	1919.1	1893.1	1623.2	1691.7	2312.1	2556.8	2582.1
47.5°	1976.9	2008.9	2542.8	2715.0	2559.4	1972.3	2010.2	2836.7	3074.1	3064.8
50°	2337.3	2488.3	3307.5	3713.8	3341.4	2425.8	2377.2	3481.7	3769.7	3741.1
52.5°	2763.6	3045.5	4226.5	4803.7	4451.3	2935.8	2915.9	4336.2	4511.8	4420.7
55°	3300.2	3583.5	5283.8	6090.4	5589.0	3558.2	3626.7	5327.0	5360.9	5071.7
57.5°	4100.8	4285.0	6529.9	7565.9	6776.6	4404.1	4900.8	6645.6	6240.0	5692.1
60°	5554.4	5187.4	7734.2	9075.4	8040.1	5593.7	6581.1	7427.0	6532.6	5777.2
62.5°	6060.5	5953.4	8488.3	9713.8	8889.9	6570.5	7018.0	6984.1	6153.6	5455.4
65°	5293.8	5762.6	8353.3	9376.6	8780.8	6409.6	6297.9	6495.4	5726.7	4966.6
67.5°	4890.1	5314.4	7841.9	8446.4	8176.4	5863.6	5613.6	5559.8	4807.7	4202.6
70°	4483.2	4903.4	7100.5	7175.6	7049.9	4973.9	4645.4	4284.4	3593.5	3067.5
72.5°	3993.8	4225.2	6071.8	5715.4	5573.1	3906.7	3837.5	3226.4	2693.8	2242.3
75°	3483.1	3415.9	4733.9	3922.6	4029.0	3039.5	3241.0	2369.3	1973.6	1613.9
77.5°	2533.5	2483.6	3170.5	2382.6	2638.6	1990.9	1788.8	945.6	900.4	776.7
80°	1413.7	1704.3	1712.3	1335.2	1665.7	1298.0	447.5	31.3	19.9	29.3
82.5°	657.0	732.8	928.3	619.1	950.2	643.0	92.4	0.0	0.0	0.0
85°	212.8	311.2	260.7	91.1	230.1	217.4	15.3	0.0	0.0	0.0
87.5°	12.6	25.9	6.6	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

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

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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



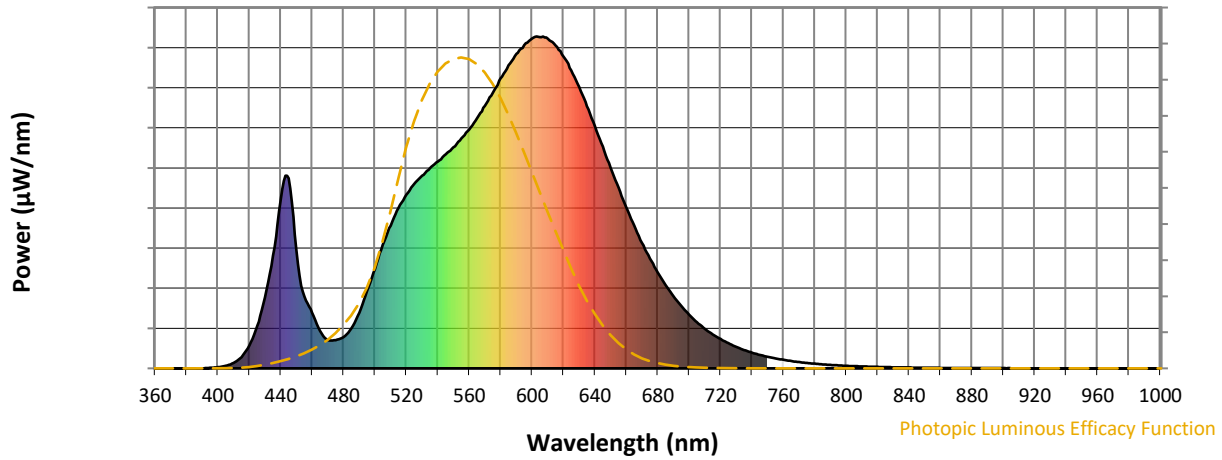
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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			



REPORT NUMBER: SP1-2408-195-9

**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)