

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: P630067

Luminaire Tested: GWS-SA1C-830-U-SLL-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630067  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-37)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1C-830-U-SLL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

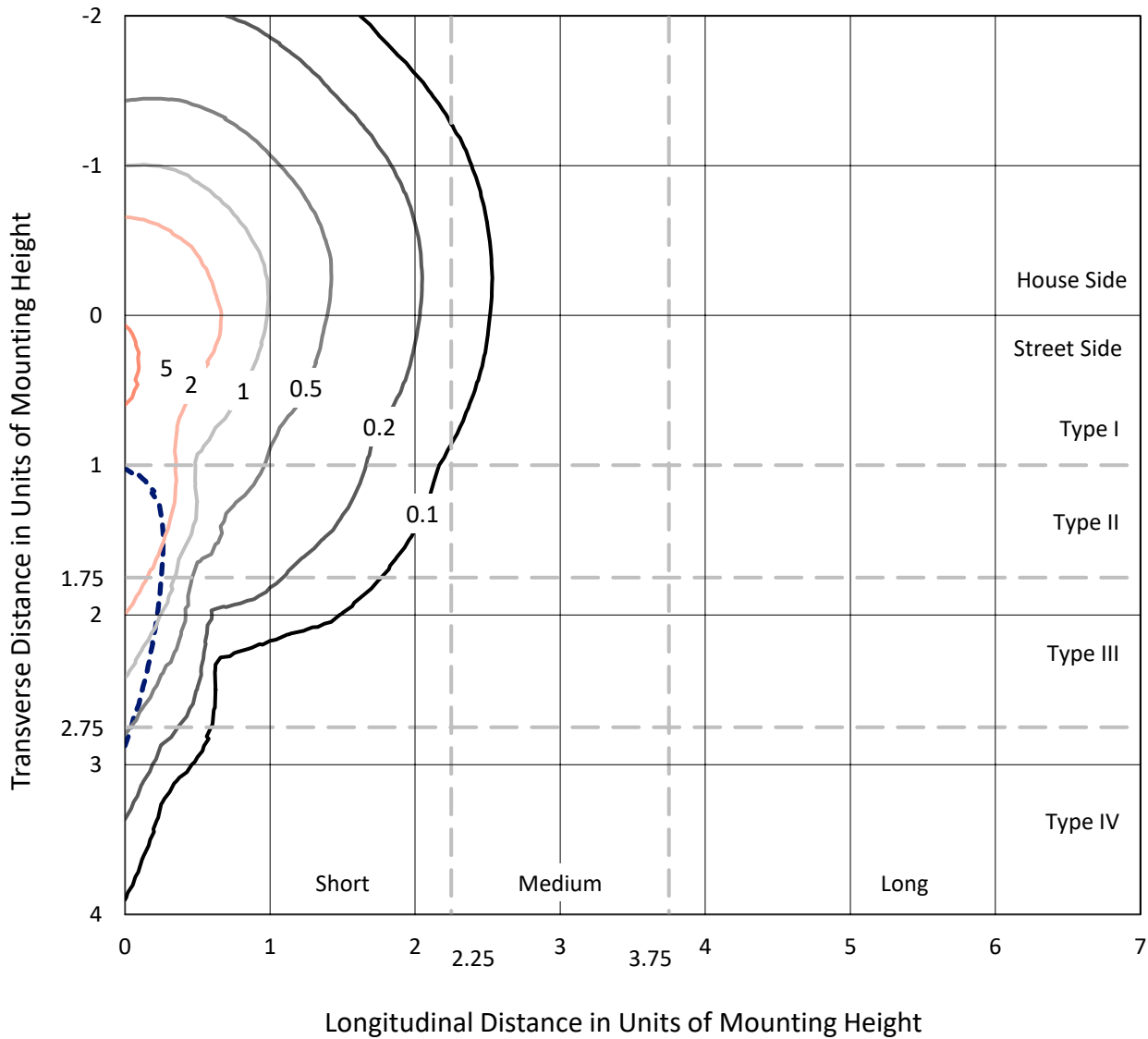
Lumens per Lamp: N/A  
Luminaire Lumens: 3578.6 lumens  
Efficiency: N/A  
Efficacy: 104.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 34.1  
Input Voltage (V): 120  
Input Current (Ain): 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

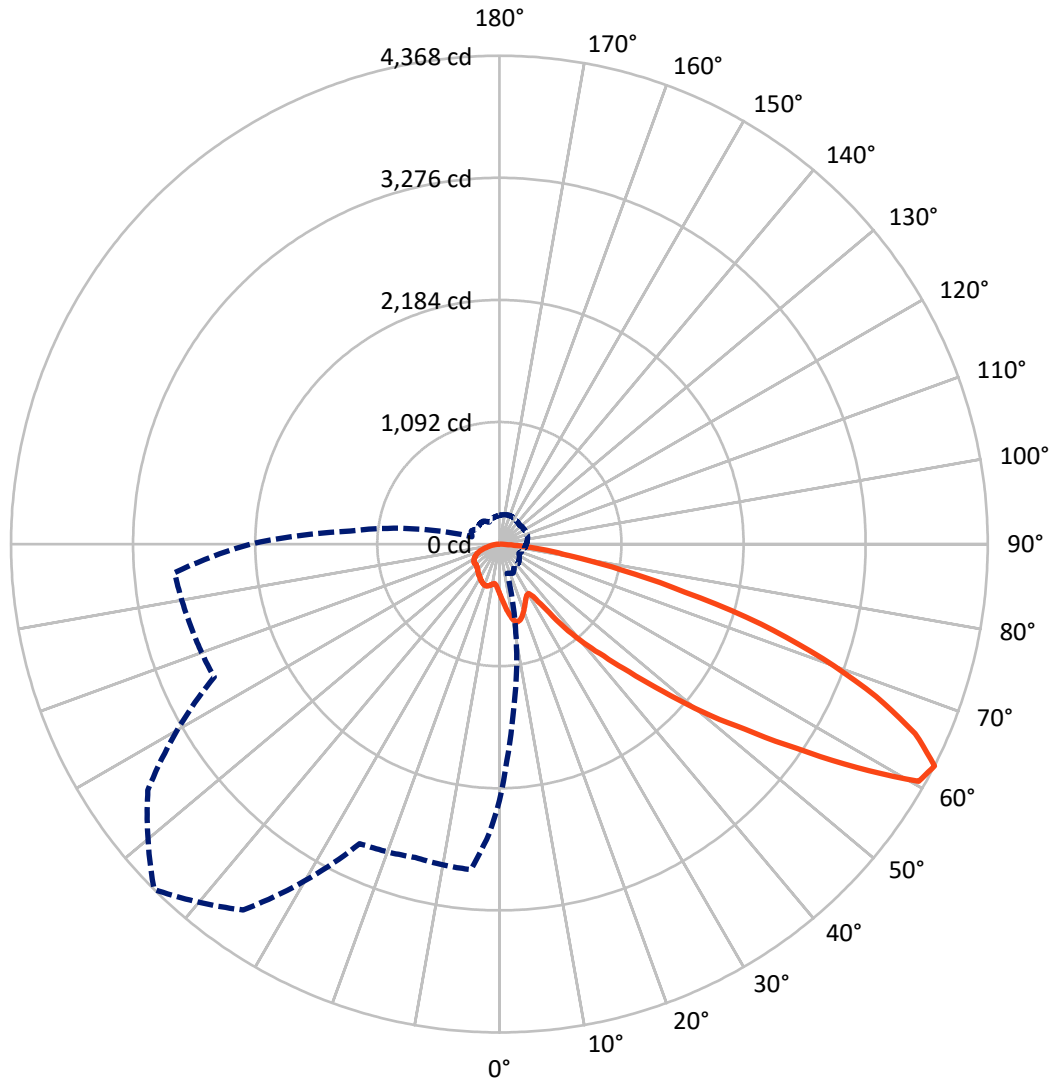
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6 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	855.6	0.0	855.6
	% Fixture	23.9	0.0	23.9
<b>Street Side</b>	Lumens	2723.0	0.0	2723.0
	% Fixture	76.1	0.0	76.1
<b>Total</b>	Lumens	3578.6	0.0	3578.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.0	1.2
10°-20°	142.9	4.0
20°-30°	224.9	6.3
30°-40°	308.2	8.6
40°-50°	481.0	13.4
50°-60°	829.3	23.2
60°-70°	961.0	26.9
70°-80°	507.3	14.2
80°-90°	80.1	2.2
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°	3578.6	100.0
0°-180°	3578.6	100.0

**Coefficient of Utilization**



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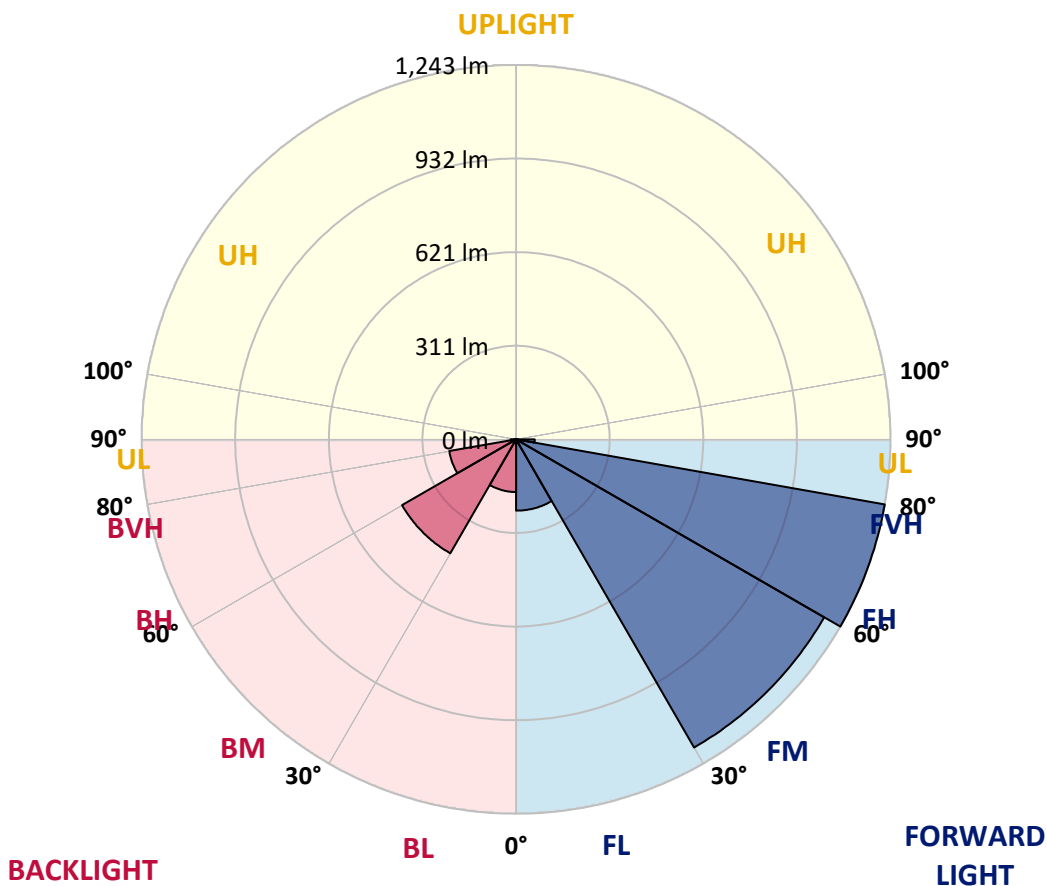
CATALOG NUMBER: GWS-SA1C-830-U-SLL-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	236.7	6.6			
FM (30°-60°)	1181.4	33.0			
FH (60°-80°)	1243.0	34.7			G1/1800
FVH (80°-90°)	61.9	1.7			G1/100
BL (0°-30°)	175.0	4.9	B1/500		
BM (30°-60°)	437.1	12.2	B1/1000		
BH (60°-80°)	225.3	6.3	B1/500		G1/500
BVH (80°-90°)	18.3	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	2°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2
2.5°	484.8	482.9	480.1	470.8	465.1	458.5	451.7	443.7	434.7	428.4	422.1
5°	525.8	522.8	516.3	494.1	478.8	462.1	448.1	432.2	416.6	405.9	395.3
7.5°	565.2	561.4	551.3	517.3	492.4	468.3	447.3	424.3	401.0	385.1	372.5
10°	604.7	596.7	583.9	539.5	506.7	478.8	454.7	426.5	395.5	373.9	360.5
12.5°	634.8	627.4	613.4	559.8	520.9	485.9	458.8	432.8	406.5	383.5	369.8
15°	663.0	653.4	637.5	578.7	532.7	485.6	450.6	427.8	424.0	418.3	400.5
17.5°	683.2	674.5	658.0	594.0	539.2	477.1	427.8	414.4	431.7	449.2	432.2
20°	701.0	690.9	674.2	604.7	540.6	458.2	400.2	400.5	427.6	451.7	447.5
22.5°	716.1	704.9	690.1	616.7	540.1	431.9	376.1	392.5	419.6	438.5	439.1
25°	734.7	725.4	713.1	634.5	540.1	405.1	358.6	382.9	406.2	422.1	421.5
27.5°	757.4	751.1	741.0	661.6	545.0	382.7	348.7	370.6	389.0	402.7	402.4
30°	782.9	777.1	769.5	690.3	553.5	366.0	343.3	355.3	368.7	379.7	379.7
32.5°	808.9	806.7	798.5	713.3	546.9	360.8	338.6	340.0	347.1	356.1	355.3
35°	845.0	842.8	832.4	731.1	518.4	353.4	331.2	324.4	325.2	330.9	332.9
37.5°	897.8	894.5	879.2	751.9	475.5	334.8	319.2	307.9	305.5	307.9	311.5
40°	961.6	956.7	935.9	780.1	425.9	309.6	300.3	291.0	286.9	287.7	291.8
42.5°	1041.5	1031.1	1001.3	810.0	376.9	287.4	279.2	273.5	268.8	268.3	276.2
45°	1171.3	1142.8	1095.5	836.5	335.6	275.6	260.3	256.2	252.4	254.6	263.9
47.5°	1397.9	1345.4	1253.1	859.2	310.4	275.9	245.3	240.9	240.6	245.0	255.4
50°	1709.4	1633.6	1491.3	874.6	297.3	279.2	236.2	229.1	234.3	238.7	248.5
52.5°	2007.8	1892.0	1722.6	874.3	291.5	279.8	238.7	218.2	234.3	235.4	244.7
55°	2262.6	2053.0	1785.0	784.5	283.3	277.6	248.3	209.7	231.3	235.4	242.8
57.5°	2465.2	2155.3	1780.3	633.7	308.2	265.5	254.0	207.8	222.5	236.0	244.4
60°	2442.8	2108.5	1665.6	389.0	305.8	244.2	253.2	211.3	207.8	228.6	242.5
62.5°	2293.6	1940.7	1468.3	269.9	287.1	231.8	239.8	217.6	194.1	217.9	233.2
65°	2084.7	1724.2	1223.6	206.9	237.9	232.4	217.1	213.2	182.0	200.9	217.3
67.5°	1808.5	1455.7	966.0	164.0	165.9	201.2	197.1	189.4	170.8	185.9	200.6
70°	1359.6	1062.3	664.6	131.9	125.6	168.1	177.1	170.3	159.9	164.2	179.8
72.5°	958.0	693.6	364.1	104.6	96.9	129.2	153.8	152.7	141.2	144.5	159.9
75°	712.0	490.8	227.5	82.7	78.8	92.5	128.9	132.2	122.6	126.5	138.2
77.5°	473.8	317.8	126.5	61.3	61.3	67.6	96.1	111.4	104.3	107.3	115.5
80°	261.4	161.8	63.2	40.2	41.3	46.5	70.1	80.2	80.5	87.9	90.1
82.5°	82.7	51.5	28.2	23.5	22.2	26.6	45.2	57.5	53.7	68.4	63.0
85°	18.9	12.0	5.2	5.2	5.7	8.8	17.2	30.7	39.1	47.1	34.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	12.0	17.8	15.9
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°	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2
2.5°	418.3	412.8	411.1	406.5	405.9	401.6	399.9	399.9	401.8	401.8	403.7
5°	390.9	384.0	380.2	374.7	373.4	370.1	367.9	368.2	370.6	372.3	375.6
7.5°	366.8	362.1	359.4	356.9	356.4	355.8	353.4	353.1	353.9	356.4	358.9
10°	356.7	353.4	354.2	356.1	359.1	360.8	358.6	357.5	356.7	358.3	360.5
12.5°	366.5	363.2	364.9	368.2	372.3	373.9	373.1	372.8	373.6	379.9	384.6
15°	388.1	381.9	379.7	381.0	384.3	386.0	385.1	386.2	391.4	407.9	419.6
17.5°	415.0	399.6	390.9	388.4	389.8	391.2	391.2	393.9	402.9	427.0	441.8
20°	429.5	409.5	394.7	388.7	389.2	390.6	390.6	394.4	404.6	430.3	439.9
22.5°	425.6	407.3	389.2	382.7	382.9	384.0	384.0	387.3	396.4	419.1	423.5
25°	410.6	394.4	376.7	370.9	371.4	373.4	372.8	374.7	381.6	400.2	402.7
27.5°	392.5	378.3	360.8	356.4	358.9	362.7	359.4	359.7	366.0	381.6	381.9
30°	373.1	361.3	345.7	342.4	347.1	349.0	346.0	346.0	352.3	363.0	362.7
32.5°	352.0	344.6	333.4	329.8	335.0	338.1	334.2	334.8	339.7	346.8	344.1
35°	332.3	328.5	323.3	320.8	324.1	326.8	324.4	325.5	330.1	332.0	328.2
37.5°	313.4	312.9	313.4	313.4	314.2	315.1	313.4	316.2	320.3	317.8	313.4
40°	297.0	299.2	304.4	303.0	302.2	303.0	301.9	306.6	310.7	306.3	301.1
42.5°	283.3	287.4	295.4	295.4	293.7	294.3	293.7	299.5	302.5	296.4	290.7
45°	271.5	277.6	287.7	289.1	286.3	286.3	287.4	294.5	295.6	287.4	281.4
47.5°	263.3	270.7	282.2	284.7	280.6	280.3	283.3	291.0	291.0	281.4	274.5
50°	257.6	265.8	279.5	282.8	278.7	277.6	282.5	289.9	288.2	276.7	269.9
52.5°	253.7	262.2	279.2	283.9	281.1	280.0	285.0	290.2	286.0	273.7	266.6
55°	251.3	260.6	280.0	283.9	280.8	278.9	283.9	288.5	286.3	272.1	265.2
57.5°	252.7	262.0	278.9	280.8	277.3	274.0	279.8	286.3	285.5	272.6	265.8
60°	250.5	258.9	272.9	273.5	267.4	262.2	270.7	280.6	280.6	270.7	264.7
62.5°	240.3	248.8	261.1	261.7	254.8	249.1	258.9	270.7	270.4	262.5	256.2
65°	223.6	231.6	245.5	246.9	240.1	234.0	244.2	255.1	255.9	248.8	243.3
67.5°	205.3	212.4	222.8	228.3	222.5	216.2	225.6	236.0	235.7	227.2	221.4
70°	183.4	190.0	199.5	204.2	200.6	194.6	203.1	208.6	206.1	202.0	198.2
72.5°	161.8	168.1	177.1	177.1	173.3	167.5	170.0	179.8	182.9	179.8	177.4
75°	139.1	144.5	150.8	152.2	143.7	133.3	144.8	153.3	156.8	155.5	152.5
77.5°	115.8	119.9	129.2	126.7	110.9	105.4	114.7	127.3	129.7	128.9	124.8
80°	89.2	91.7	101.6	96.6	84.3	80.7	84.9	94.7	95.3	92.5	87.3
82.5°	59.9	63.2	69.8	60.2	59.9	56.7	53.4	54.5	59.4	58.9	55.3
85°	30.7	32.3	38.6	36.1	30.9	26.8	25.5	27.1	24.4	22.2	19.2
87.5°	12.9	14.0	19.2	10.7	3.3	0.0	0.0	1.6	2.5	3.6	3.8
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°	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2
2.5°	408.1	411.1	418.5	427.8	436.9	446.2	456.3	462.6	470.3	480.1	480.4
5°	379.7	386.5	397.2	411.4	426.2	443.2	462.9	479.3	499.0	514.6	520.9
7.5°	362.1	372.0	385.4	403.5	422.9	444.0	469.7	497.4	529.7	550.5	562.8
10°	363.8	378.8	392.3	407.6	425.1	447.8	480.9	517.6	557.3	584.7	600.0
12.5°	393.1	409.0	406.5	405.7	417.4	445.1	490.0	538.2	586.6	614.0	632.3
15°	430.0	436.0	412.8	395.3	402.4	435.2	494.9	556.5	611.0	644.4	662.4
17.5°	448.9	436.9	408.7	382.4	380.5	420.2	497.4	575.1	638.3	671.7	690.9
20°	440.2	422.6	398.8	373.9	360.2	399.6	496.0	589.9	663.2	700.5	716.1
22.5°	421.3	405.9	387.3	363.5	343.8	377.2	492.4	604.7	685.4	722.9	736.6
25°	400.7	389.2	373.9	353.1	334.5	357.5	490.0	624.4	710.9	746.7	755.5
27.5°	380.2	371.7	359.1	343.0	332.3	343.8	490.8	650.1	743.7	777.7	774.1
30°	360.0	352.6	343.8	336.7	332.0	340.5	488.6	677.5	779.9	811.3	790.3
32.5°	340.8	333.9	328.5	329.6	332.3	341.9	477.4	702.4	813.0	839.8	807.8
35°	324.4	317.3	317.3	321.1	331.2	337.2	448.4	721.8	849.7	876.5	832.7
37.5°	309.0	302.7	306.8	313.1	322.7	324.6	411.1	740.7	903.0	928.2	871.3
40°	295.6	289.3	296.7	304.7	309.6	308.8	373.4	767.0	966.0	992.0	922.5
42.5°	285.0	279.2	285.8	295.9	296.7	297.5	345.7	792.2	1039.1	1072.2	1010.6
45°	276.2	272.1	275.4	285.5	285.5	298.1	328.5	813.2	1149.1	1207.7	1172.4
47.5°	269.3	266.9	268.5	271.8	277.3	307.9	317.5	829.4	1349.5	1464.4	1428.9
50°	265.5	263.1	265.2	258.4	274.8	312.9	314.0	841.7	1613.6	1793.7	1749.7
52.5°	262.2	261.4	262.8	246.9	280.3	309.6	311.2	825.3	1790.7	2117.8	2161.4
55°	261.1	261.7	255.1	238.4	286.9	298.6	303.0	707.9	1838.9	2397.3	2667.5
57.5°	261.7	260.0	243.3	239.2	287.1	276.7	314.8	505.0	1768.8	2518.8	3162.7
60°	259.8	251.6	229.1	246.6	274.5	251.0	306.3	329.3	1584.1	2425.5	3191.4
62.5°	251.3	239.2	216.8	250.7	252.1	235.7	278.1	253.7	1337.7	2225.7	2914.4
65°	239.0	222.8	206.4	242.2	229.4	228.6	209.1	203.4	1075.8	1987.8	2651.6
67.5°	218.7	202.6	198.7	222.8	206.4	202.6	168.1	168.6	858.4	1734.3	2387.5
70°	195.7	179.6	182.6	201.5	183.7	168.3	136.0	140.4	651.2	1445.0	2031.3
72.5°	180.7	159.0	159.3	177.4	161.5	136.3	112.0	115.8	413.3	1089.2	1615.0
75°	152.5	140.1	134.1	143.7	137.1	106.2	94.2	93.3	245.0	780.7	1209.3
77.5°	127.3	117.7	114.7	118.5	102.4	78.6	75.8	74.5	138.8	500.1	792.4
80°	92.2	89.8	89.5	91.4	78.8	57.8	57.8	58.0	74.7	271.5	446.7
82.5°	58.6	64.1	56.7	63.0	53.7	41.1	38.3	43.5	43.0	115.8	188.3
85°	24.4	33.4	31.2	33.1	25.5	22.4	24.1	26.0	24.9	44.6	73.4
87.5°	4.7	5.5	6.0	5.7	5.7	7.1	7.9	9.6	9.6	12.9	22.2
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: P630067  
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**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	358°	360°
0°	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2	446.2
2.5°	490.8	498.7	497.1	500.6	496.0	497.6	488.3	485.9	484.2	484.8
5°	541.2	557.3	560.3	566.3	562.2	562.2	545.8	533.5	529.1	525.8
7.5°	592.3	615.6	630.9	632.6	630.4	626.0	602.2	580.0	572.1	565.2
10°	637.8	665.7	683.0	691.2	687.1	680.2	650.7	620.3	610.7	604.7
12.5°	672.6	697.2	708.7	714.2	713.6	711.1	687.1	654.2	644.1	634.8
15°	695.0	707.3	702.9	702.7	706.5	716.3	709.0	683.2	671.5	663.0
17.5°	709.5	697.7	678.3	669.3	677.5	700.7	717.7	703.2	692.5	683.2
20°	714.7	672.8	644.6	627.9	637.5	671.2	713.1	717.7	708.7	701.0
22.5°	708.7	642.4	604.1	584.4	593.7	634.0	699.4	729.5	723.5	716.1
25°	693.9	610.7	564.7	546.9	557.0	598.1	675.0	740.4	740.7	734.7
27.5°	675.6	581.4	537.1	520.4	530.2	568.5	651.2	750.0	759.6	757.4
30°	656.9	563.9	523.9	512.1	519.5	553.5	626.8	759.9	779.0	782.9
32.5°	648.5	572.4	554.8	560.0	550.5	562.2	618.1	773.8	802.6	808.9
35°	659.7	647.6	692.0	712.5	678.6	634.0	629.3	794.9	835.7	845.0
37.5°	714.2	808.9	875.1	947.4	888.5	790.3	684.9	830.8	883.0	897.8
40°	832.7	949.6	1069.2	1162.5	1073.6	941.4	790.5	884.1	948.2	961.6
42.5°	944.4	1081.5	1246.3	1367.0	1251.5	1064.8	904.4	973.9	1034.1	1041.5
45°	1053.9	1211.0	1460.6	1628.4	1471.6	1182.2	1020.7	1125.6	1171.0	1171.3
47.5°	1182.2	1356.9	1729.4	1968.4	1763.6	1312.3	1130.0	1365.6	1428.9	1397.9
50°	1335.8	1501.9	2006.2	2363.9	2119.8	1472.1	1268.7	1658.2	1744.5	1709.4
52.5°	1541.4	1661.8	2311.1	2749.6	2507.9	1654.1	1469.9	2044.8	2073.2	2007.8
55°	1830.7	1892.6	2702.5	3225.9	2941.2	1878.3	1764.2	2529.8	2450.1	2262.6
57.5°	2489.6	2257.7	3205.1	3769.2	3431.5	2285.6	2409.1	3064.7	2781.4	2465.2
60°	3040.8	2701.2	3670.2	4308.5	3851.6	2734.5	3014.6	3157.7	2769.0	2442.8
62.5°	2855.0	2814.2	3837.9	4367.9	3995.1	2955.4	2902.1	2923.1	2588.4	2293.6
65°	2504.9	2596.0	3688.2	4086.2	3836.0	2757.5	2625.1	2706.4	2381.7	2084.7
67.5°	2298.2	2365.3	3421.9	3635.4	3547.0	2543.5	2409.6	2350.8	2060.9	1808.5
70°	2086.9	2142.5	3048.0	3069.6	3096.1	2187.6	1970.3	1795.1	1536.2	1359.6
72.5°	1803.3	1806.3	2575.2	2449.9	2500.2	1711.9	1586.0	1342.1	1118.2	958.0
75°	1512.9	1430.2	2038.5	1712.4	1813.5	1331.7	1316.9	1011.4	843.4	712.0
77.5°	1153.5	1056.9	1489.1	1126.1	1273.7	886.9	990.1	686.0	593.4	473.8
80°	774.4	714.2	822.8	635.6	833.2	611.2	645.7	388.7	337.0	261.4
82.5°	408.4	348.7	508.6	376.9	502.6	335.9	242.2	120.2	102.4	82.7
85°	158.2	183.1	249.4	134.1	194.9	119.9	70.1	29.8	24.9	18.9
87.5°	30.7	47.4	26.0	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

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

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**

$\lambda$ (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**

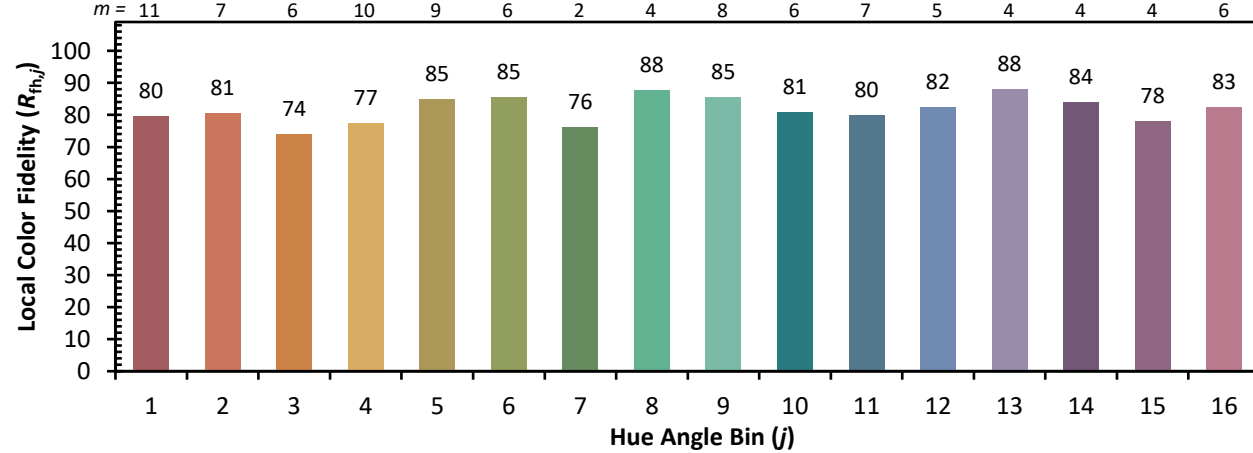


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)