

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: P634003

Luminaire Tested: GWS-SA2F-830-U-5NQ-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634003  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-7)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-5NQ-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

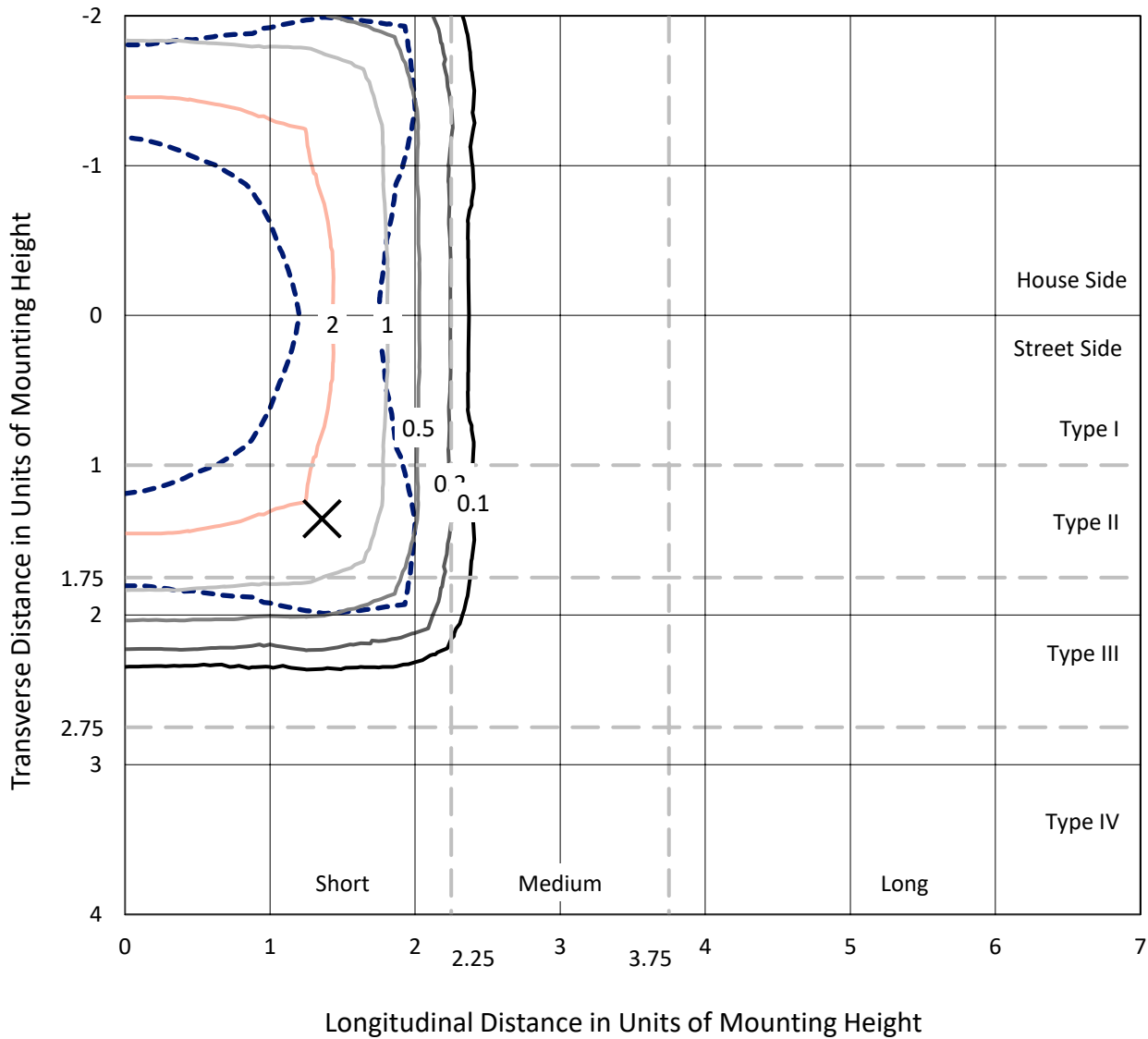
Lumens per Lamp: N/A  
Luminaire Lumens: 13469.5 lumens  
Efficiency: N/A  
Efficacy: 108.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G2  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P634003  
 CATALOG NUMBER: GWS-SA2F-830-U-5NQ-W

### Iso-Footcandle Lines of Horizontal Illumination

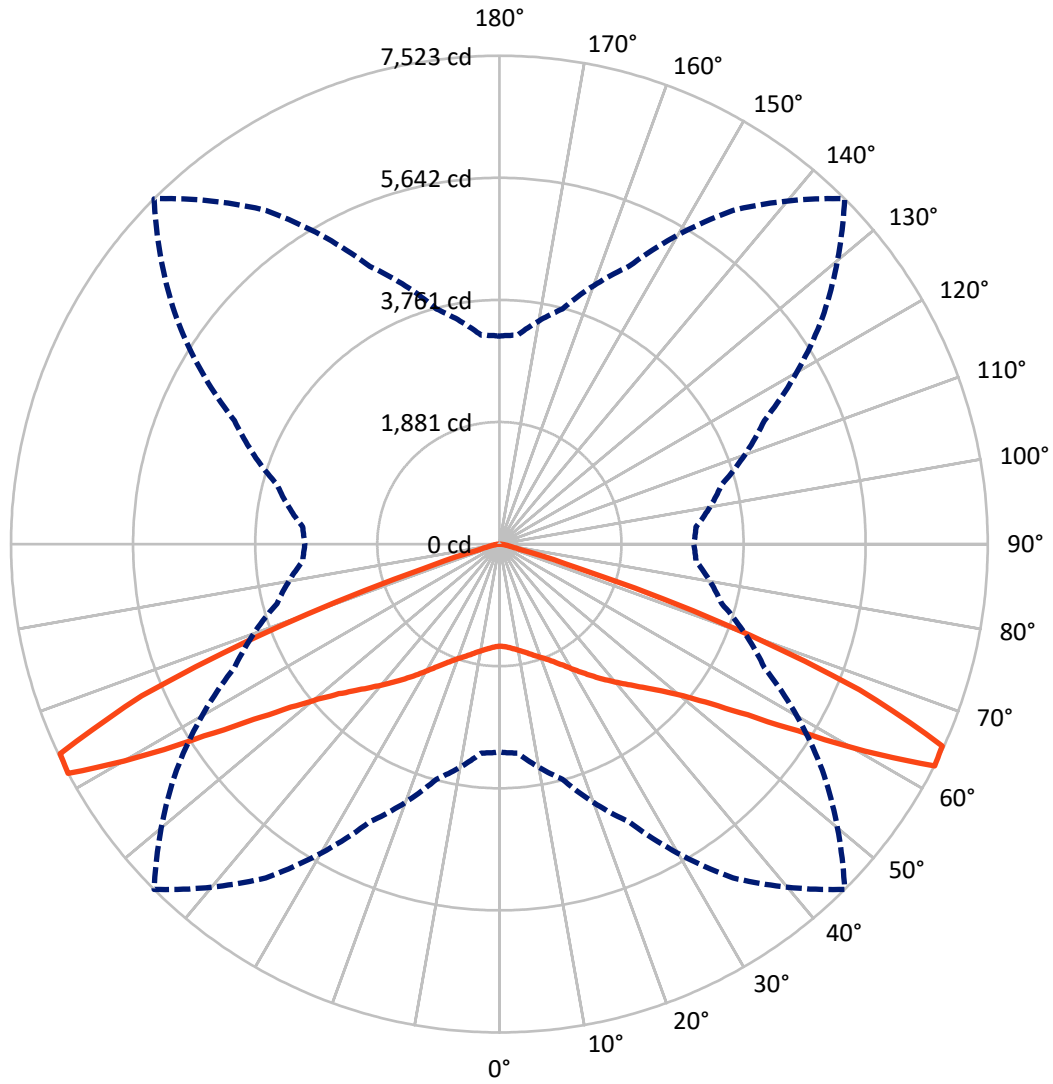
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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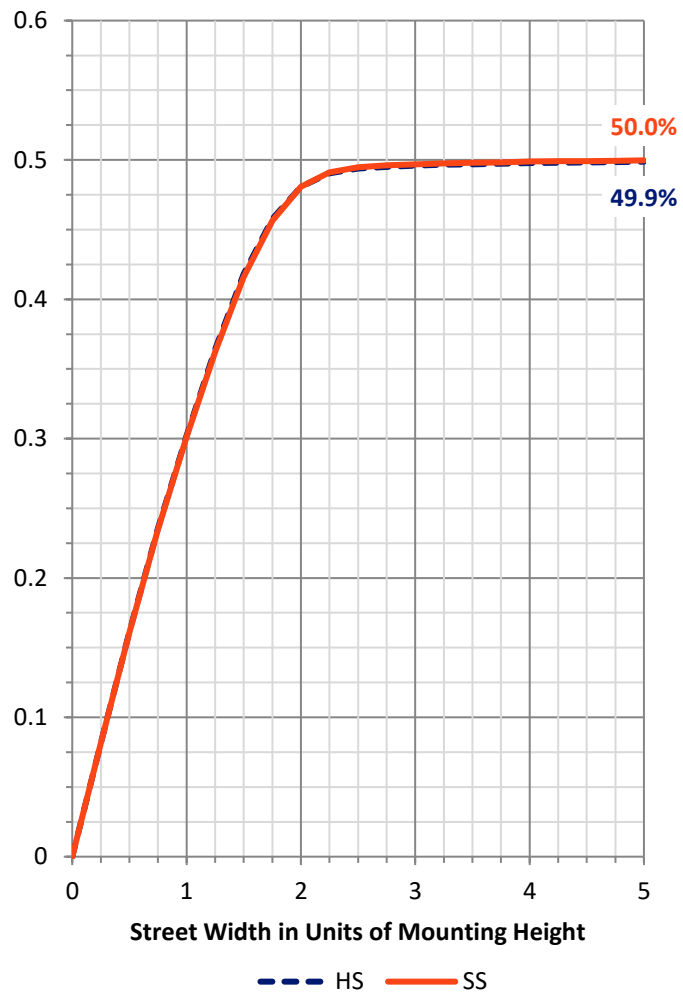
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6734.7	0.0	6734.7
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6734.7	0.0	6734.7
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	13469.5	0.0	13469.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.2	1.1
10°-20°	497.2	3.7
20°-30°	940.6	7.0
30°-40°	1583.2	11.8
40°-50°	2529.5	18.8
50°-60°	4077.4	30.3
60°-70°	3326.7	24.7
70°-80°	323.0	2.4
80°-90°	37.6	0.3
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°	13469.5	100.0
0°-180°	13469.5	100.0

**Coefficient of Utilization**



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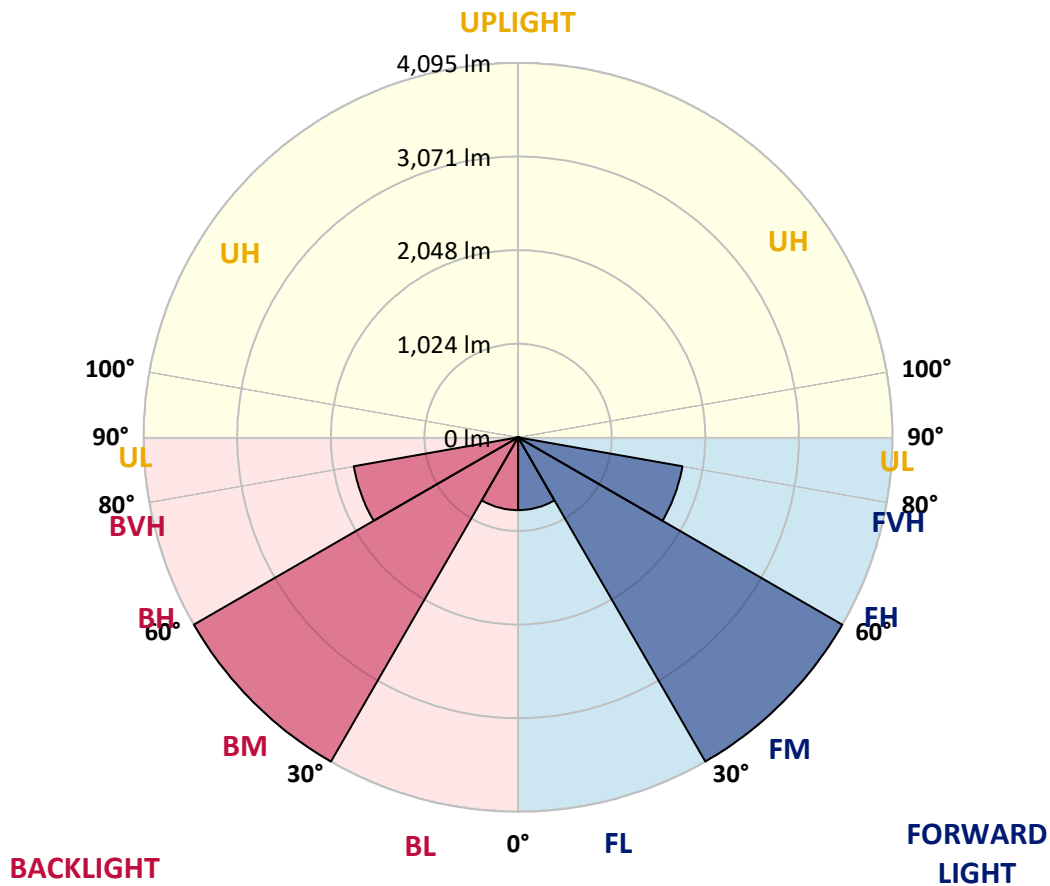
CATALOG NUMBER: GWS-SA2F-830-U-5NQ-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	796.0	5.9			
FM (30°-60°)	4095.1	30.4			
FH (60°-80°)	1824.9	13.5			G2/5000
FVH (80°-90°)	18.8	0.1			G1/100
BL (0°-30°)	796.0	5.9	B2/1000		
BM (30°-60°)	4095.1	30.4	B3/5000		
BH (60°-80°)	1824.9	13.5	B3/2500		G2/5000
BVH (80°-90°)	18.8	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G2**

Type V Short





REPORT NUMBER: P634003  
 CATALOG NUMBER: GWS-SA2F-830-U-5NQ-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4	1571.4
2.5°	1569.6	1569.6	1573.2	1576.0	1574.2	1581.6	1580.6	1578.8	1577.9	1575.1	1583.4
5°	1590.8	1590.8	1593.6	1596.3	1591.7	1601.0	1597.3	1595.4	1594.5	1590.8	1598.2
7.5°	1614.8	1617.6	1618.5	1623.1	1620.4	1630.5	1627.8	1624.1	1622.2	1617.6	1624.1
10°	1641.6	1643.5	1644.4	1652.7	1653.6	1665.6	1662.9	1658.2	1654.5	1649.9	1659.2
12.5°	1677.6	1678.6	1681.3	1691.5	1694.3	1703.5	1702.6	1696.1	1691.5	1685.0	1695.2
15°	1723.8	1724.8	1729.4	1739.5	1744.2	1755.2	1751.5	1741.4	1734.9	1727.5	1735.8
17.5°	1771.9	1775.6	1780.2	1790.3	1796.8	1809.7	1805.1	1794.0	1788.5	1781.1	1786.6
20°	1833.8	1834.7	1837.5	1848.5	1853.2	1867.9	1868.9	1857.8	1855.0	1847.6	1855.9
22.5°	1902.1	1903.0	1905.8	1917.8	1926.1	1935.4	1940.9	1934.5	1929.8	1920.6	1930.8
25°	1977.9	1987.1	1989.9	2004.7	2013.9	2019.4	2025.9	2023.1	2016.7	2005.6	2010.2
27.5°	2084.1	2086.0	2090.6	2107.2	2112.8	2118.3	2124.8	2125.7	2116.4	2103.5	2110.0
30°	2205.1	2204.2	2214.4	2227.3	2231.9	2236.5	2245.8	2251.3	2239.3	2225.5	2231.9
32.5°	2328.9	2340.0	2352.9	2365.0	2362.2	2364.0	2378.8	2389.0	2372.3	2347.4	2352.9
35°	2468.4	2475.8	2492.4	2510.0	2506.3	2503.5	2512.8	2522.9	2499.8	2467.5	2475.8
37.5°	2611.6	2622.7	2647.6	2668.9	2663.3	2650.4	2660.6	2671.7	2649.5	2612.5	2608.8
40°	2771.4	2789.0	2825.0	2842.6	2827.8	2802.8	2820.4	2847.2	2825.0	2782.5	2772.4
42.5°	2959.0	2980.2	3016.2	3043.0	3010.7	2970.0	2999.6	3038.4	3032.9	2976.5	2959.0
45°	3190.8	3204.7	3249.0	3262.0	3213.9	3157.6	3211.2	3270.3	3256.4	3195.5	3172.4
47.5°	3443.0	3464.3	3503.1	3527.1	3449.5	3379.3	3454.1	3533.6	3518.8	3461.5	3434.7
50°	3764.5	3792.2	3843.0	3863.4	3756.2	3675.8	3771.9	3872.6	3844.0	3767.3	3732.2
52.5°	4114.6	4136.8	4223.7	4264.3	4163.6	4076.8	4160.8	4259.7	4198.7	4097.1	4050.0
55°	4423.2	4445.4	4572.9	4707.7	4703.1	4643.1	4685.6	4687.4	4522.0	4353.9	4304.0
57.5°	4489.7	4511.9	4754.8	5107.7	5357.2	5426.5	5301.7	5039.4	4622.7	4328.0	4271.7
60°	4135.0	4159.9	4546.1	5190.9	6011.2	6474.1	5899.4	5032.0	4311.4	3912.3	3858.7
62.5°	3203.8	3230.6	3749.7	4717.9	6275.4	7522.6	6073.1	4502.6	3546.5	3041.2	2994.1
65°	1529.8	1529.8	2189.4	3383.9	5748.9	7497.6	5570.6	3331.3	2134.9	1639.8	1599.1
67.5°	378.8	380.6	563.5	1317.4	3910.5	5983.5	3974.2	1599.1	752.0	532.1	518.3
70°	236.5	235.6	261.4	356.6	1368.2	3631.5	1625.0	482.2	305.8	269.8	267.9
72.5°	183.8	183.8	196.8	228.2	358.4	1237.0	473.9	267.9	221.7	199.5	199.5
75°	145.0	145.0	154.3	170.9	211.6	318.7	252.2	198.6	171.8	157.0	155.2
77.5°	108.1	109.9	117.3	128.4	144.1	179.2	159.8	149.7	134.0	122.9	119.2
80°	70.2	73.0	82.2	88.7	94.2	118.2	104.4	109.0	101.6	88.7	86.8
82.5°	37.9	38.8	49.9	51.7	53.6	64.7	66.5	69.3	72.1	56.4	52.7
85°	13.9	13.9	16.6	19.4	21.2	23.1	31.4	38.8	40.6	32.3	31.4
87.5°	2.8	2.8	2.8	1.8	1.8	1.8	5.5	10.2	16.6	12.9	12.9
90°	0.0	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  
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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



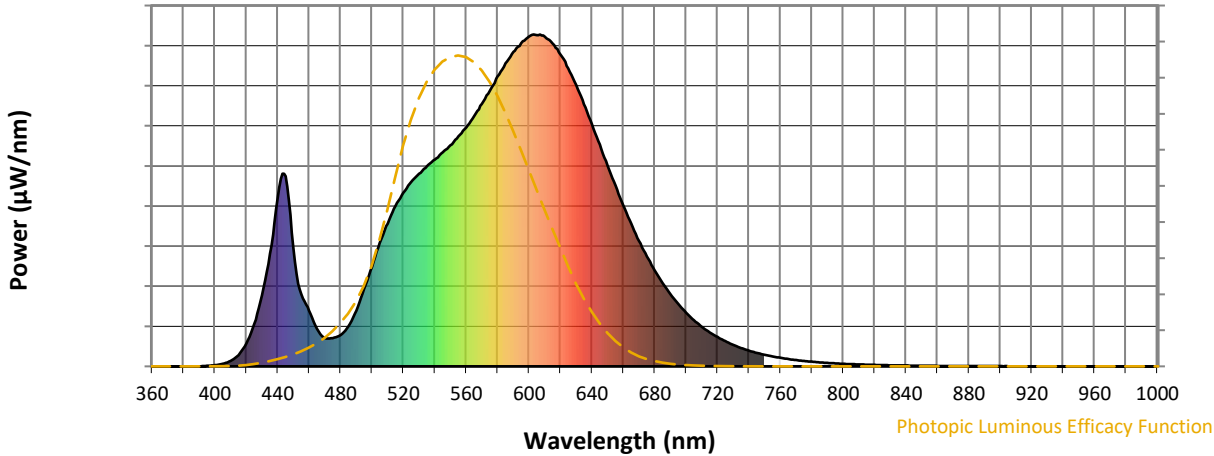
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	$\lambda$ (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			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

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			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

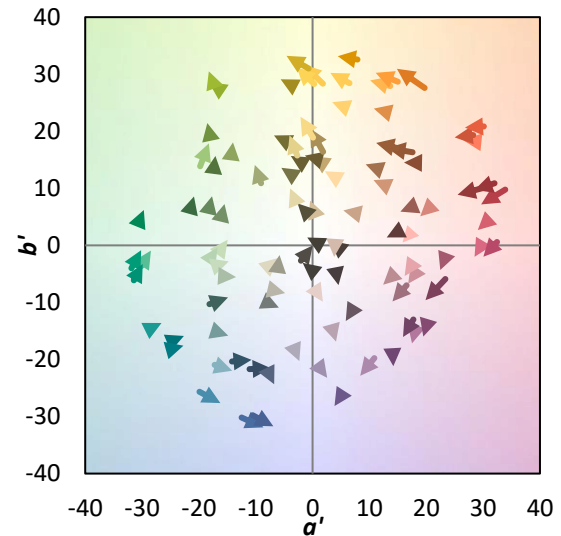
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625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

**Summary**

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



**Color Vector Graphics**



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

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





Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)