

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: P633510

Luminaire Tested: GWS-SA2E-830-U-5WQ-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P633510
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-3)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2E-830-U-5WQ-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (32) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9789.1 lumens
Efficiency: N/A
Efficacy: 90.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G1

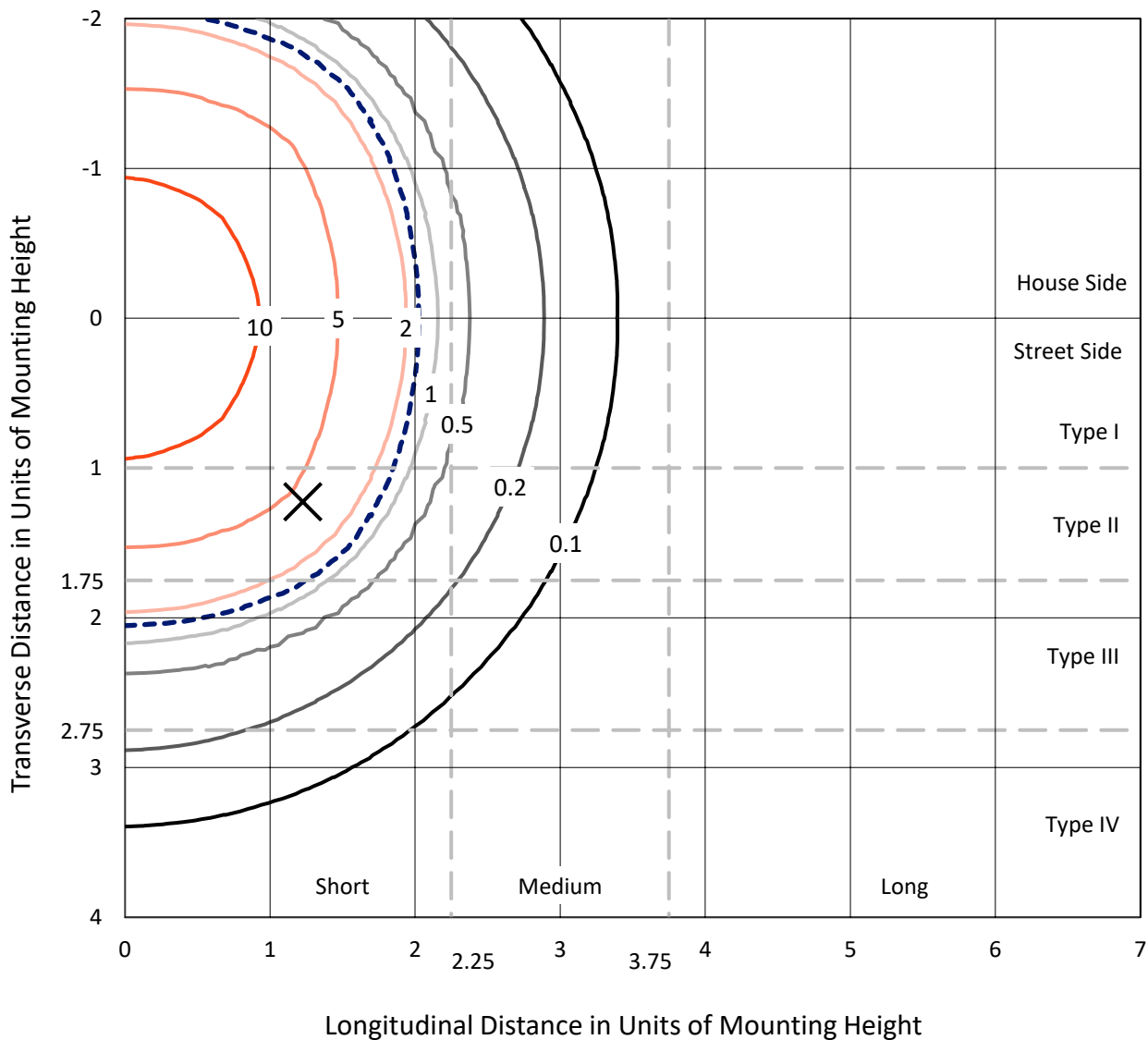
Input Watts (W): 108.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P633510
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Iso-Footcandle Lines of Horizontal Illumination

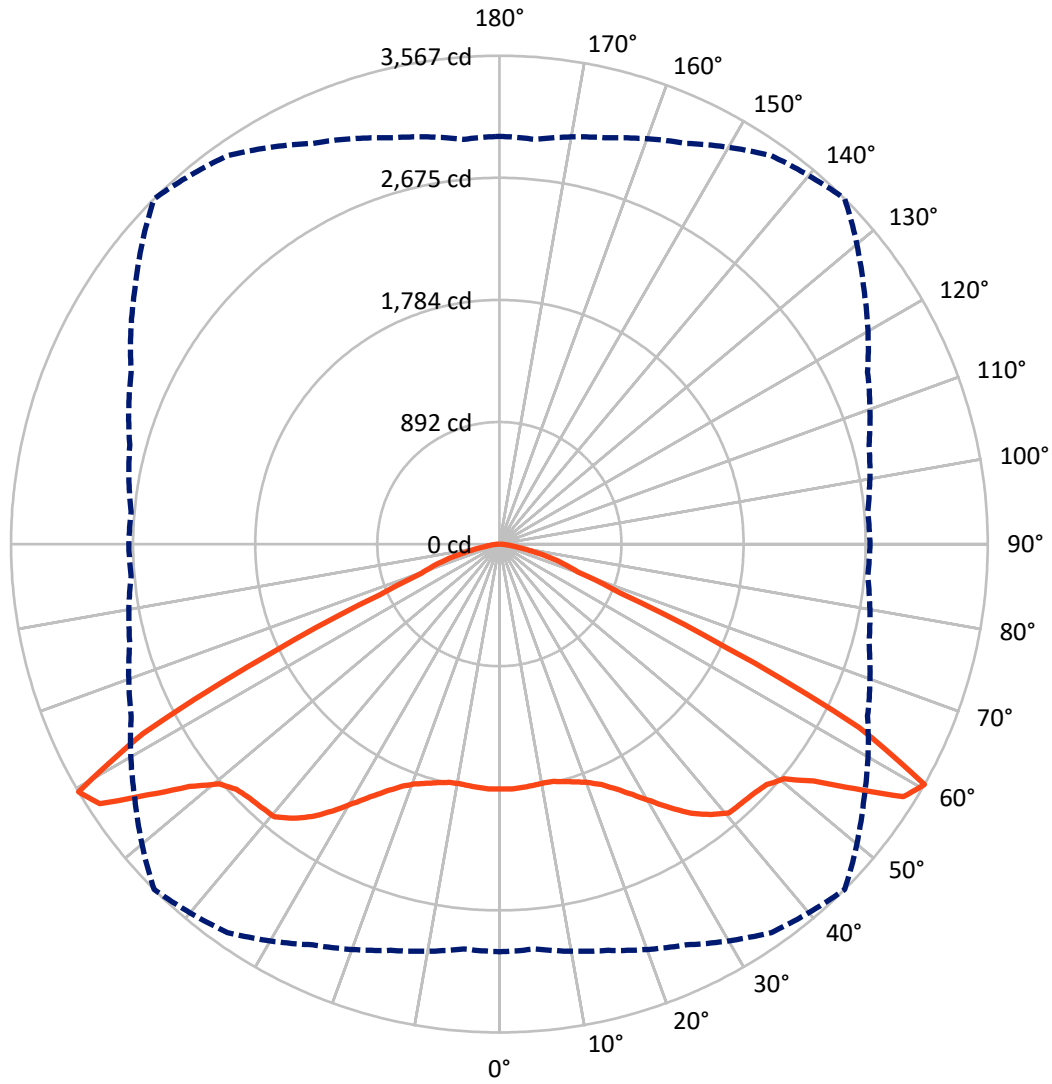
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.9 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 60-Deg Vertical

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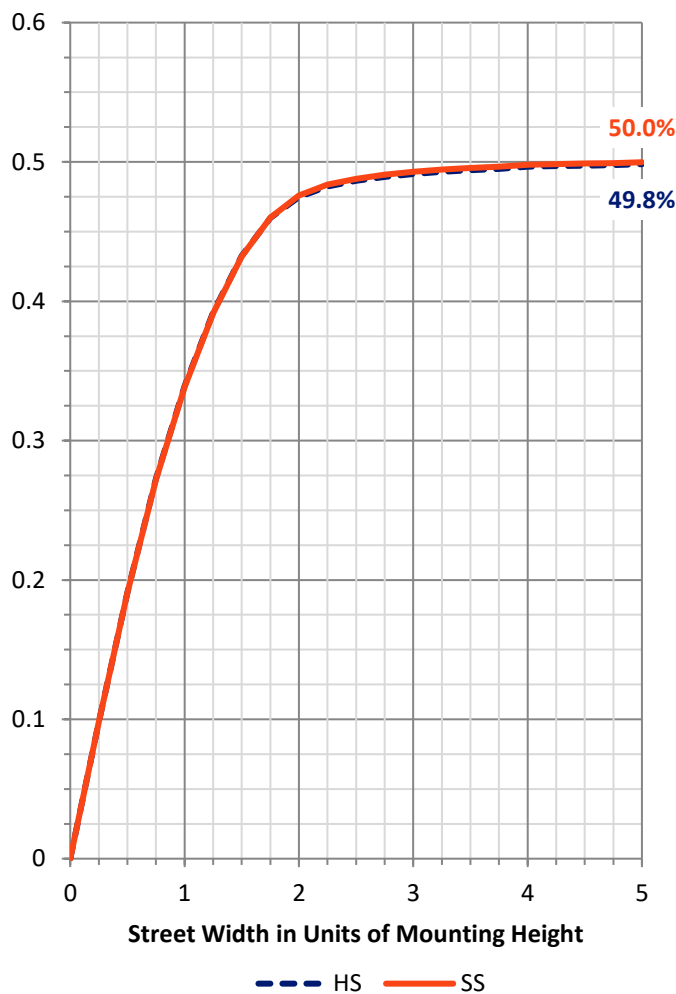
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4894.5	0.0	4894.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4894.5	0.0	4894.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	9789.1	0.0	9789.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.7	1.7
10°-20°	510.3	5.2
20°-30°	902.8	9.2
30°-40°	1453.5	14.8
40°-50°	1997.9	20.4
50°-60°	2662.3	27.2
60°-70°	1659.3	17.0
70°-80°	381.6	3.9
80°-90°	51.8	0.5
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°	9789.1	100.0
0°-180°	9789.1	100.0

Coefficient of Utilization



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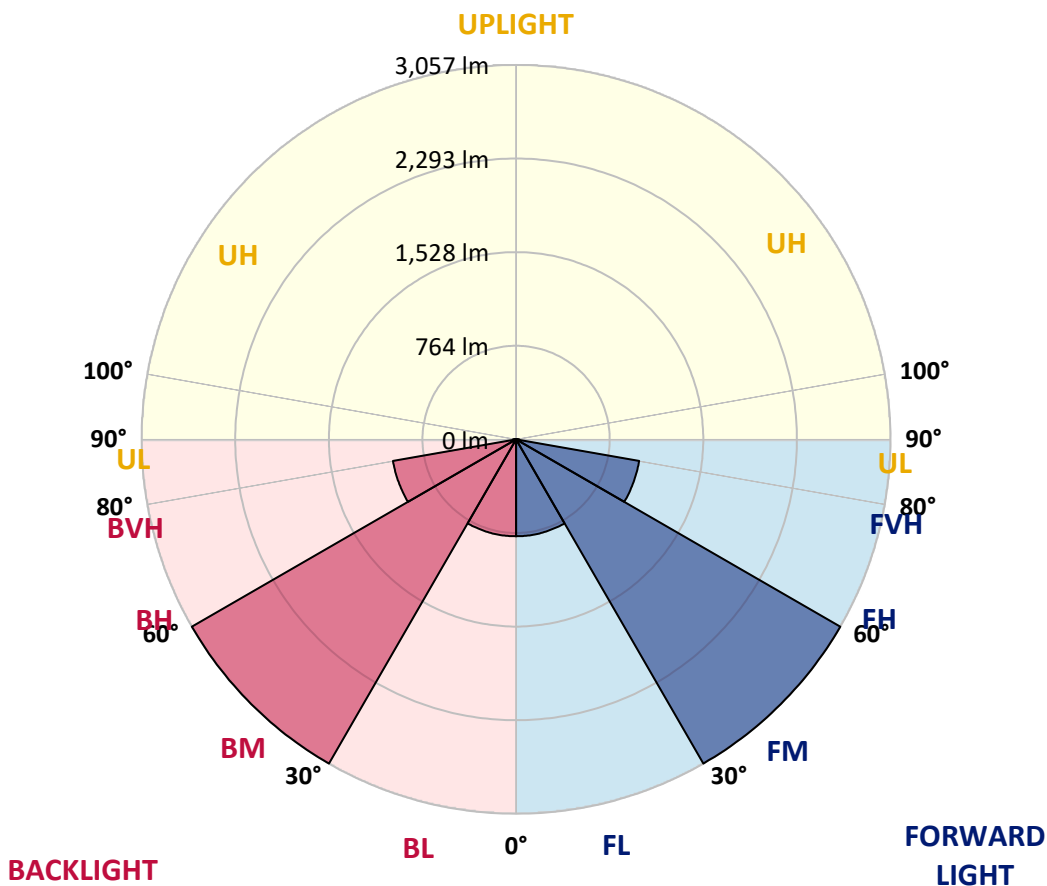
CATALOG NUMBER: GWS-SA2E-830-U-5WQ-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	791.4	8.1			
FM (30°-60°)	3056.9	31.2			
FH (60°-80°)	1020.4	10.4			G1/1800
FVH (80°-90°)	25.9	0.3			G1/100
BL (0°-30°)	791.4	8.1	B2/1000		
BM (30°-60°)	3056.9	31.2	B3/5000		
BH (60°-80°)	1020.4	10.4	B3/2500		G1/1800
BVH (80°-90°)	25.9	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CATALOG NUMBER: GWS-SA2E-830-U-5WQ-W-GRSWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9	1788.9
2.5°	1776.5	1778.1	1781.5	1784.0	1787.3	1790.6	1792.3	1788.9	1787.3	1780.6	1788.1
5°	1778.1	1779.8	1782.3	1782.3	1783.1	1785.6	1785.6	1781.5	1777.3	1769.8	1778.1
7.5°	1775.6	1777.3	1778.1	1777.3	1778.1	1779.0	1777.3	1772.3	1768.2	1761.5	1768.2
10°	1771.5	1773.2	1774.8	1773.2	1771.5	1774.0	1774.0	1770.7	1768.2	1761.5	1769.0
12.5°	1780.6	1783.1	1784.0	1779.8	1778.1	1779.0	1779.0	1775.6	1775.6	1769.8	1778.1
15°	1802.2	1803.9	1801.4	1796.4	1797.3	1799.7	1793.9	1785.6	1784.0	1781.5	1788.1
17.5°	1818.9	1820.5	1818.0	1814.7	1820.5	1826.3	1815.5	1799.7	1794.8	1793.1	1800.6
20°	1837.1	1839.6	1836.3	1840.5	1852.1	1858.7	1845.4	1823.8	1813.9	1811.4	1820.5
22.5°	1867.0	1870.4	1870.4	1879.5	1897.0	1907.8	1891.1	1862.1	1847.1	1843.0	1852.1
25°	1914.4	1916.9	1919.4	1937.7	1965.9	1980.9	1954.3	1914.4	1893.6	1887.0	1892.0
27.5°	1980.1	1984.2	1988.4	2015.0	2049.8	2071.5	2033.2	1983.4	1957.6	1944.3	1954.3
30°	2058.2	2064.0	2073.9	2103.9	2152.9	2177.0	2128.0	2067.3	2038.2	2024.1	2037.4
32.5°	2164.5	2165.3	2172.8	2206.1	2270.9	2298.3	2236.8	2169.5	2139.6	2123.0	2130.4
35°	2290.8	2291.6	2280.0	2314.1	2383.9	2414.6	2342.3	2274.2	2249.3	2244.3	2263.4
37.5°	2420.4	2413.0	2401.3	2416.3	2486.9	2506.8	2430.4	2372.2	2361.4	2370.6	2398.8
40°	2512.7	2500.2	2476.9	2487.7	2559.2	2582.5	2501.0	2446.2	2442.9	2465.3	2499.4
42.5°	2572.5	2559.2	2531.8	2531.8	2580.8	2590.8	2527.6	2498.5	2506.0	2531.8	2564.2
45°	2601.6	2594.1	2578.3	2570.0	2597.4	2601.6	2553.4	2541.7	2555.9	2568.3	2593.3
47.5°	2624.0	2624.0	2619.0	2610.7	2623.2	2625.7	2589.9	2586.6	2604.9	2604.9	2621.5
50°	2663.9	2668.0	2674.7	2673.0	2686.3	2694.6	2668.0	2663.1	2670.5	2646.4	2654.7
52.5°	2768.6	2779.4	2798.5	2813.5	2847.5	2873.3	2825.9	2786.0	2747.0	2693.8	2695.5
55°	2956.4	2961.4	2998.7	3042.8	3100.1	3152.5	3055.2	2931.4	2846.7	2784.4	2785.2
57.5°	3115.1	3122.6	3177.4	3269.6	3398.4	3479.8	3264.6	3057.7	2938.1	2861.6	2864.1
60°	2978.0	2968.0	3071.9	3229.7	3463.2	3567.1	3249.7	2967.2	2795.2	2700.4	2707.1
62.5°	2304.1	2285.0	2400.5	2565.8	2845.9	2949.7	2657.2	2386.4	2223.5	2149.6	2138.8
65°	1402.6	1385.1	1468.2	1569.6	1759.0	1824.7	1690.9	1547.1	1405.1	1360.2	1347.7
67.5°	763.6	761.1	783.5	833.4	916.5	947.2	921.5	853.3	816.8	785.2	785.2
70°	605.7	600.7	596.6	597.4	604.9	609.1	609.9	606.6	610.7	611.5	608.2
72.5°	501.9	500.2	491.9	492.7	489.4	487.7	493.6	496.9	503.5	504.4	504.4
75°	363.9	359.8	363.9	364.8	361.4	361.4	365.6	364.8	368.1	369.8	360.6
77.5°	206.9	206.9	212.7	219.4	224.3	224.3	228.5	228.5	232.7	231.8	230.2
80°	113.8	113.8	117.2	121.3	126.3	131.3	135.4	136.3	138.8	137.9	135.4
82.5°	64.8	65.6	67.3	69.8	74.8	78.9	83.1	83.9	86.4	86.4	83.9
85°	30.7	29.9	30.7	32.4	34.9	38.2	42.4	44.9	46.5	46.5	44.9
87.5°	5.8	6.6	5.8	6.6	7.5	10.0	11.6	13.3	15.8	16.6	15.0
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
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

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

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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			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

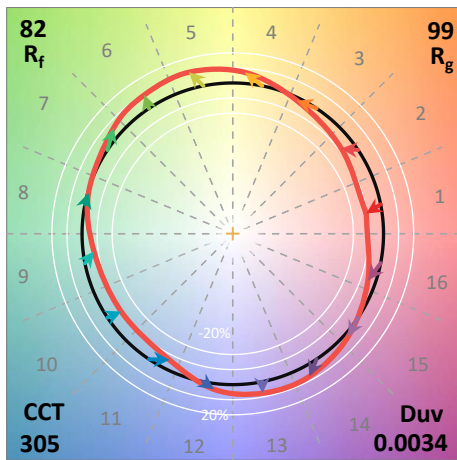
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	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			

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 ($R_{f,i}$)

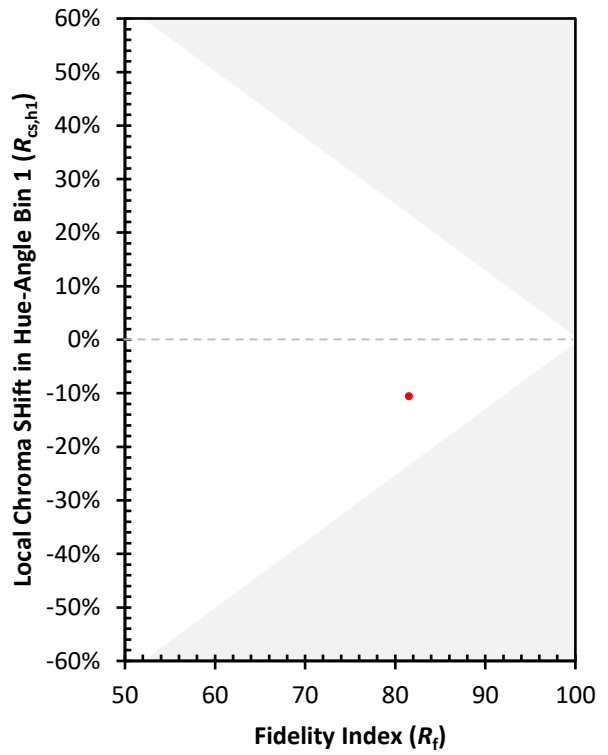
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 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)