

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: P643904

Luminaire Tested: GWS-SA6F-830-U-5WQ-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P643904  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-2)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA6F-830-U-5WQ-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (96) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20806.4 lumens  
Efficiency: N/A  
Efficacy: 55.8 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B4 - U0 - G1  
  
Input Watts (W): 372.6  
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

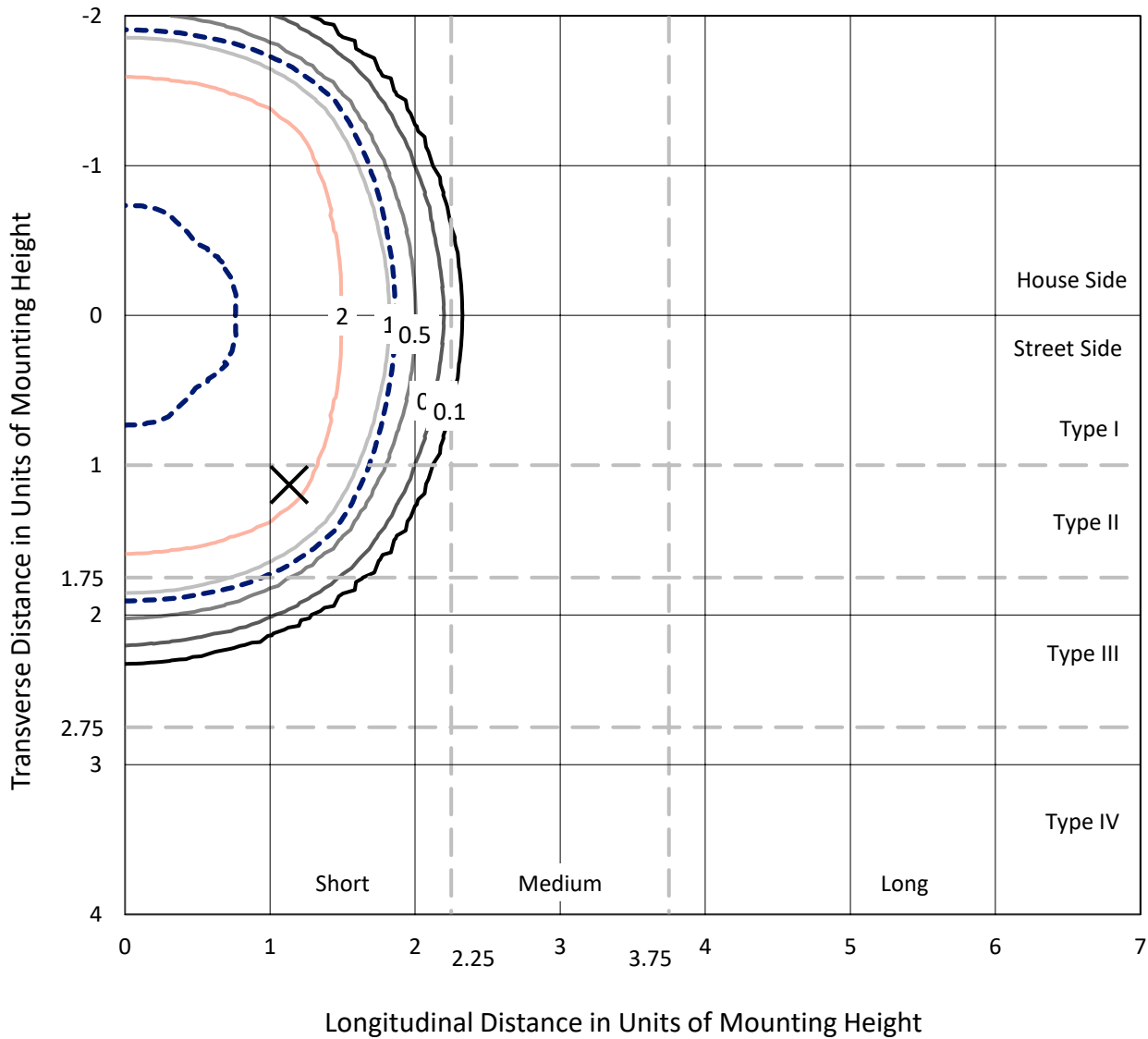


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### Iso-Footcandle Lines of Horizontal Illumination

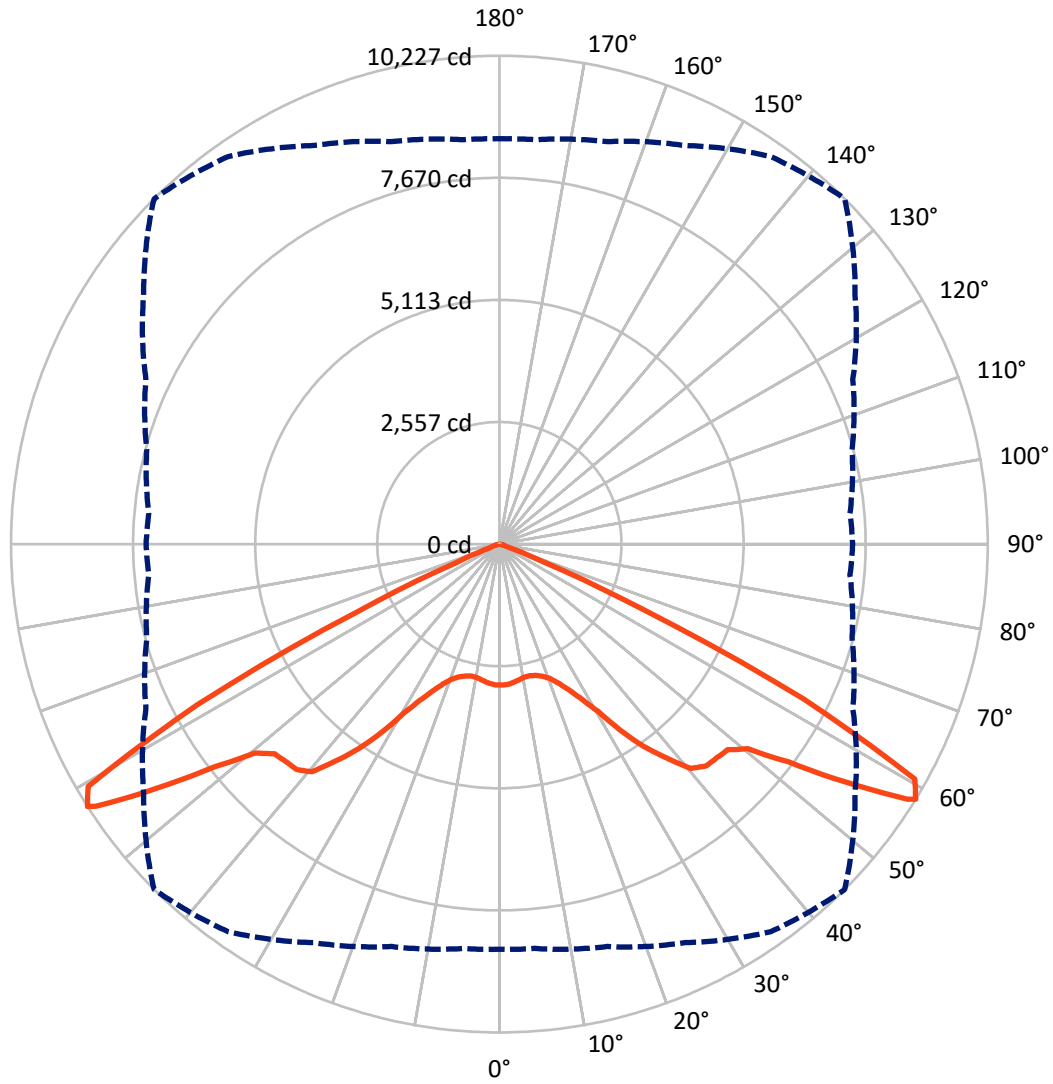
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	10403.2	0.0	10403.2
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	10403.2	0.0	10403.2
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	20806.4	0.0	20806.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.3	1.3
10°-20°	814.6	3.9
20°-30°	1540.6	7.4
30°-40°	3038.4	14.6
40°-50°	4808.3	23.1
50°-60°	7067.9	34.0
60°-70°	3154.8	15.2
70°-80°	105.7	0.5
80°-90°	0.9	0.0
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°	20806.4	100.0
0°-180°	20806.4	100.0

**Coefficient of Utilization**



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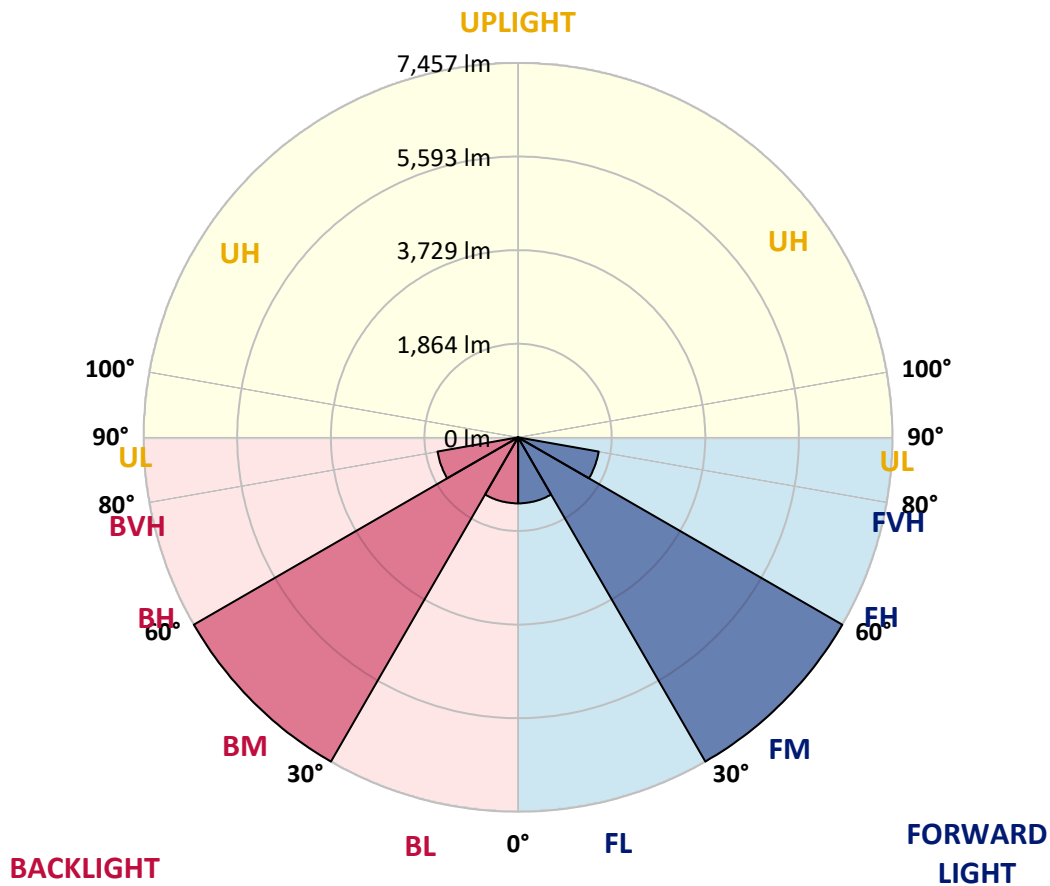
CATALOG NUMBER: GWS-SA6F-830-U-5WQ-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1315.2	6.3			
FM (30°-60°)	7457.3	35.8			
FH (60°-80°)	1630.2	7.8			G1/1800
FVH (80°-90°)	0.4	0.0			G0/10
BL (0°-30°)	1315.2	6.3	B3/2500		
BM (30°-60°)	7457.3	35.8	B4/8500		
BH (60°-80°)	1630.2	7.8	B3/2500		G1/1800
BVH (80°-90°)	0.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G1**

Type V Short





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CATALOG NUMBER: GWS-SA6F-830-U-5WQ-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6	2950.6
2.5°	2922.3	2927.9	2933.6	2936.5	2939.3	2947.8	2950.6	2942.1	2942.1	2925.1	2945.0
5°	2908.1	2913.8	2919.4	2916.6	2916.6	2916.6	2913.8	2902.4	2899.6	2882.6	2902.4
7.5°	2882.6	2888.3	2888.3	2879.8	2874.1	2874.1	2871.3	2857.1	2854.3	2837.2	2857.1
10°	2862.8	2865.6	2862.8	2845.8	2834.4	2834.4	2831.6	2825.9	2828.7	2817.4	2834.4
12.5°	2874.1	2876.9	2865.6	2842.9	2828.7	2825.9	2817.4	2808.9	2817.4	2814.6	2831.6
15°	2910.9	2913.8	2893.9	2865.6	2854.3	2854.3	2831.6	2808.9	2820.2	2823.1	2842.9
17.5°	2956.3	2956.3	2930.8	2905.3	2908.1	2908.1	2871.3	2831.6	2834.4	2845.8	2865.6
20°	3010.1	3010.1	2984.6	2979.0	2998.8	3001.6	2956.3	2893.9	2879.8	2888.3	2910.9
22.5°	3106.5	3106.5	3086.7	3100.8	3146.2	3160.4	3092.3	3004.5	2970.5	2976.1	2998.8
25°	3256.7	3256.7	3251.1	3285.1	3350.3	3381.5	3290.8	3174.5	3117.9	3109.4	3134.9
27.5°	3509.0	3511.8	3503.3	3554.4	3636.6	3673.4	3548.7	3395.6	3327.6	3313.4	3338.9
30°	3835.0	3835.0	3837.8	3908.7	4016.4	4064.5	3900.2	3721.6	3642.2	3596.9	3630.9
32.5°	4197.8	4203.4	4231.8	4350.8	4540.7	4639.9	4399.0	4149.6	4022.0	3973.8	4010.7
35°	4795.8	4742.0	4708.0	4795.8	5070.8	5201.1	4892.2	4600.3	4503.9	4498.2	4591.8
37.5°	5388.2	5357.0	5286.2	5376.9	5623.5	5683.0	5342.9	5099.1	5031.1	5067.9	5161.5
40°	5858.7	5802.0	5708.5	5793.5	6116.7	6176.2	5756.7	5515.8	5490.3	5572.5	5700.0
42.5°	6230.0	6150.7	6026.0	6045.8	6306.6	6349.1	5977.8	5796.4	5813.4	5915.4	6060.0
45°	6397.3	6334.9	6224.4	6215.9	6380.3	6383.1	6091.2	5997.6	6043.0	6122.3	6235.7
47.5°	6468.1	6439.8	6377.4	6363.3	6456.8	6434.1	6252.7	6213.0	6255.6	6278.2	6343.4
50°	6643.9	6643.9	6652.4	6663.7	6760.1	6737.4	6609.9	6564.5	6510.6	6431.3	6451.1
52.5°	7137.1	7156.9	7239.1	7329.8	7505.5	7579.2	7372.3	7108.7	6850.8	6677.9	6677.9
55°	8027.1	8046.9	8143.3	8296.3	8619.5	8795.2	8313.3	7732.3	7378.0	7142.7	7173.9
57.5°	8517.4	8540.1	8738.5	9152.3	9778.7	10076.3	9041.8	8180.1	7684.1	7414.8	7437.5
58°	8486.2	8500.4	8724.3	9209.0	9906.3	10226.6	9092.8	8165.9	7644.4	7369.5	7397.8
60°	7539.5	7519.7	7876.8	8568.4	9552.0	9994.1	8585.4	7454.5	6847.9	6567.3	6581.5
62.5°	4929.0	4940.4	5249.3	5972.1	6737.4	7154.1	5997.6	5155.8	4668.3	4498.2	4455.7
65°	2057.8	2020.9	2210.8	2613.3	3072.5	3304.9	2840.1	2403.6	2103.1	1989.8	2020.9
67.5°	530.0	515.9	527.2	660.4	807.8	955.2	802.1	612.2	532.9	538.5	538.5
70°	300.4	283.4	229.6	212.6	206.9	206.9	206.9	206.9	238.1	280.6	289.1
72.5°	226.8	212.6	167.2	144.6	127.5	119.0	124.7	144.6	172.9	209.7	215.4
75°	113.4	113.4	102.0	96.4	85.0	79.4	82.2	90.7	104.9	119.0	116.2
77.5°	22.7	25.5	28.3	34.0	28.3	28.3	28.3	34.0	34.0	36.8	34.0
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	0.0	2.8	2.8	0.0	0.0	0.0	0.0	2.8	2.8	2.8	2.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8
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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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



CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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			

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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**

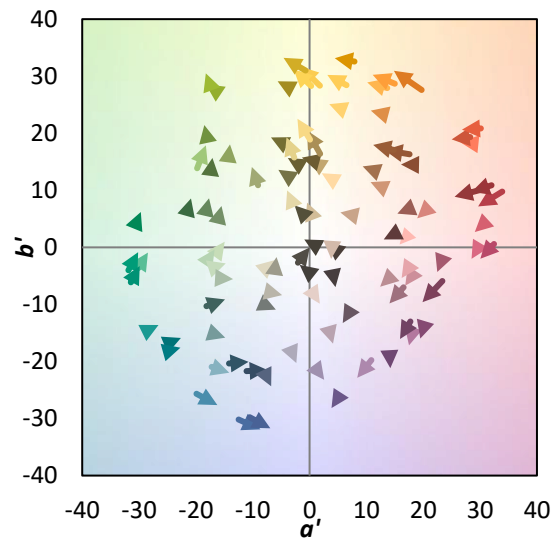
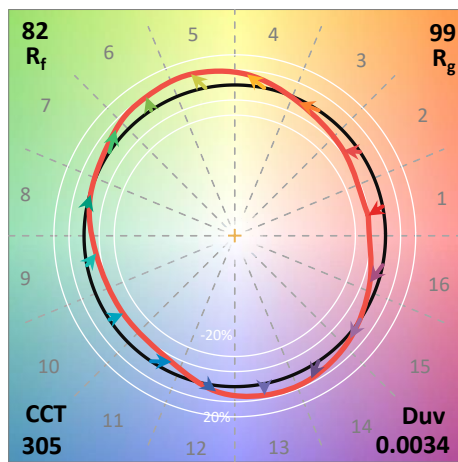
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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)