

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: STREETWORKS

Report Number: P868239

Luminaire Tested: **MEM2-HSN-SA-130-722-U-5WQ**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P868239
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HSN-SA-130-722-U-5WQ
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 130W 70CRI 2200K
FITXURE w/ TYPE V SQUARE WIDE DISTRIBUTION OPTIC
Light Source: (30) 2200K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

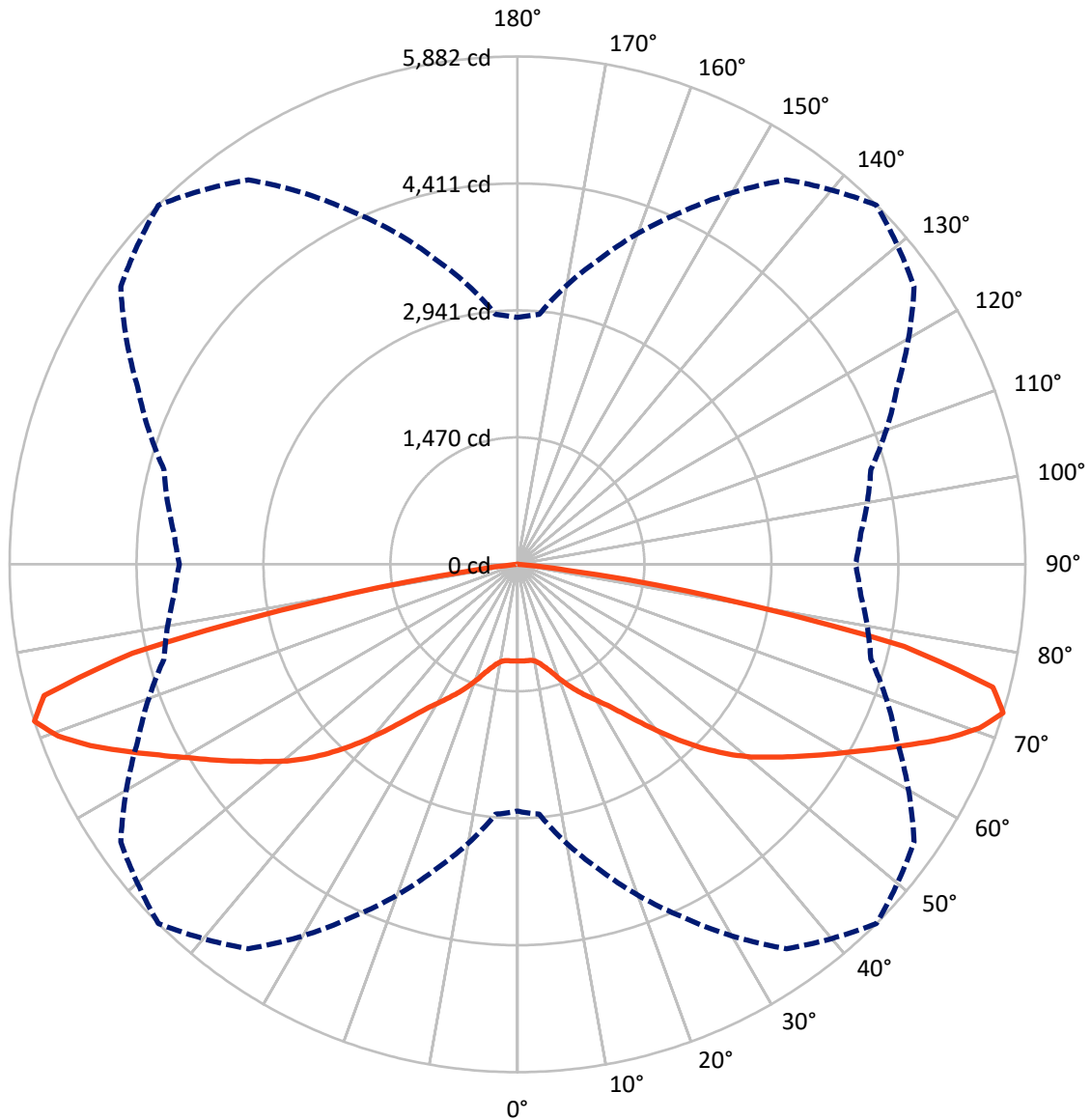
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16950.4 lumens
Efficiency: N/A
Efficacy: 126.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')
IES Classification: Type V - Short
BUG Rating: B4 - U0 - G2

Input Watts (W): 134
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.70%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P868239
CATALOG NUMBER: MEM2-HSN-SA-130-722-U-5WQ

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	8475.2	0.0	8475.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	8475.2	0.0	8475.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	16950.4	0.0	16950.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.2	0.6
10°-20°	358.0	2.1
20°-30°	738.5	4.4
30°-40°	1359.6	8.0
40°-50°	2390.6	14.1
50°-60°	3467.2	20.5
60°-70°	4519.9	26.7
70°-80°	3757.1	22.2
80°-90°	252.3	1.5
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°	16950.4	100.0
0°-180°	16950.4	100.0

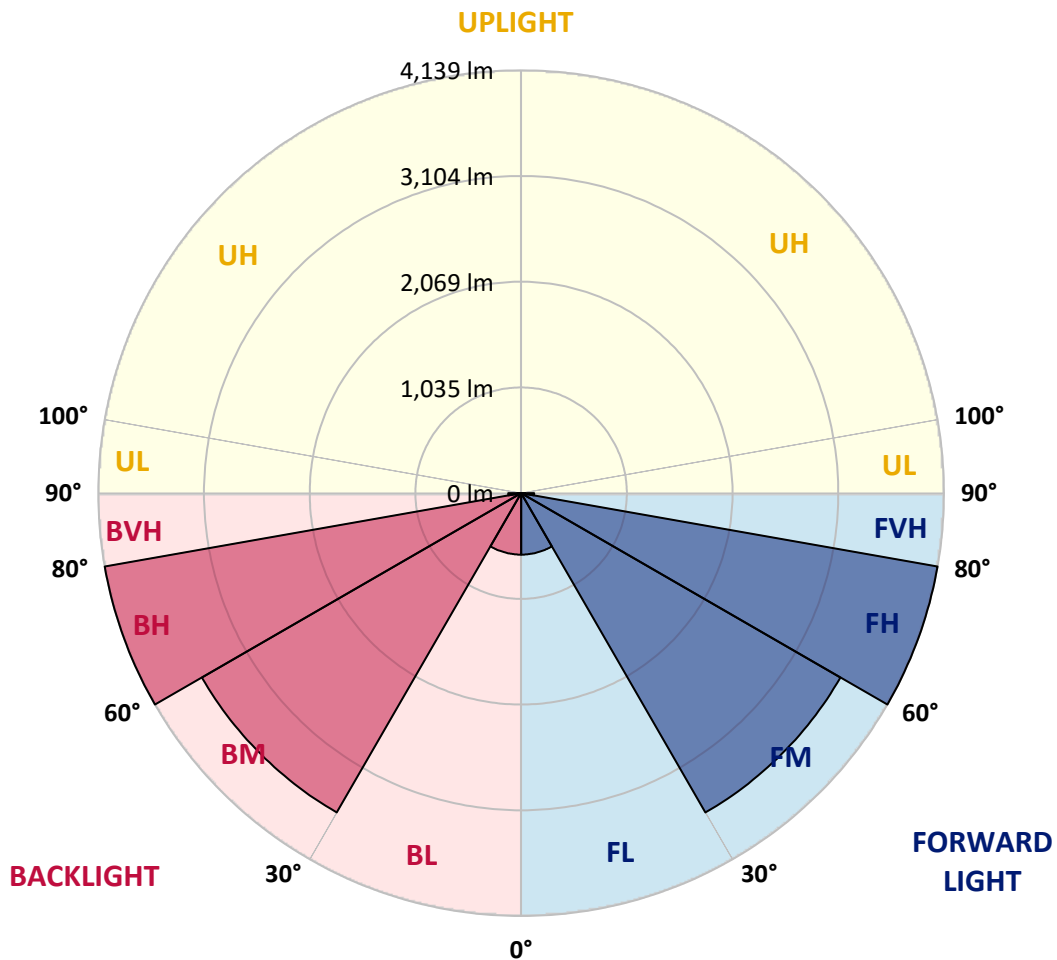


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	601.9	3.6			
FM (30°-60°)	3608.7	21.3			
FH (60°-80°)	4138.5	24.4			G2/5000
FVH (80°-90°)	126.1	0.7			G2/225
BL (0°-30°)	601.9	3.6	B2/1000		
BM (30°-60°)	3608.7	21.3	B3/5000		
BH (60°-80°)	4138.5	24.4	B4/5000		G2/5000
BVH (80°-90°)	126.1	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2
 Type V Short





REPORT NUMBER: P868239

CATALOG NUMBER: MEM2-HSN-SA-130-722-U-5WQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0	1119.0
2.5°	1115.5	1117.3	1117.3	1117.3	1119.0	1120.8	1122.5	1124.3	1127.8	1129.6	1129.6
5°	1120.8	1119.0	1117.3	1120.8	1120.8	1120.8	1122.5	1124.3	1124.3	1124.3	1126.1
7.5°	1115.5	1117.3	1115.5	1115.5	1120.8	1122.5	1120.8	1119.0	1119.0	1120.8	1120.8
10°	1134.8	1133.1	1131.3	1131.3	1136.6	1138.3	1136.6	1134.8	1134.8	1138.3	1138.3
12.5°	1178.8	1182.3	1171.7	1171.7	1178.8	1182.3	1177.0	1175.2	1177.0	1180.5	1180.5
15°	1247.3	1245.5	1238.5	1231.5	1238.5	1243.8	1236.7	1233.2	1235.0	1243.8	1236.7
17.5°	1322.8	1324.6	1317.5	1310.5	1315.8	1322.8	1312.3	1303.5	1305.2	1308.7	1305.2
20°	1407.1	1405.4	1403.6	1403.6	1414.2	1422.9	1407.1	1386.0	1380.8	1377.3	1377.3
22.5°	1468.6	1473.9	1475.6	1491.4	1516.0	1524.8	1503.7	1475.6	1454.6	1444.0	1437.0
25°	1565.2	1560.0	1556.4	1574.0	1610.9	1626.7	1600.4	1561.7	1540.6	1538.9	1544.1
27.5°	1653.1	1653.1	1660.1	1677.7	1712.8	1728.6	1705.8	1667.1	1656.6	1656.6	1651.3
30°	1767.2	1762.0	1769.0	1798.9	1825.2	1835.8	1816.4	1790.1	1781.3	1781.3	1772.5
32.5°	1900.8	1902.5	1913.1	1932.4	1958.7	1960.5	1953.5	1941.2	1935.9	1930.6	1939.4
35°	2104.5	2104.5	2101.0	2115.1	2122.1	2125.6	2129.1	2123.9	2123.9	2123.9	2116.8
37.5°	2357.5	2343.5	2341.7	2329.4	2320.6	2329.4	2345.2	2362.8	2376.8	2368.0	2364.5
40°	2608.7	2601.7	2580.6	2561.3	2554.3	2557.8	2577.1	2614.0	2629.8	2629.8	2643.8
42.5°	2879.2	2865.2	2838.8	2816.0	2796.7	2802.0	2819.5	2865.2	2900.3	2916.1	2909.1
45°	3121.7	3109.4	3083.0	3061.9	3047.9	3046.1	3069.0	3098.8	3146.3	3160.3	3170.9
47.5°	3329.0	3320.2	3297.3	3276.3	3281.5	3283.3	3290.3	3316.7	3355.3	3374.6	3372.9
50°	3497.6	3490.6	3469.5	3478.3	3492.3	3506.4	3497.6	3515.2	3539.8	3548.6	3555.6
52.5°	3652.2	3641.7	3627.6	3643.4	3680.3	3708.4	3713.7	3701.4	3708.4	3713.7	3708.4
55°	3805.0	3792.7	3789.2	3817.3	3873.5	3926.2	3921.0	3885.8	3877.1	3866.5	3861.2
57.5°	3929.8	3921.0	3935.0	3982.5	4091.4	4161.6	4138.8	4058.0	4022.9	3998.3	3991.2
60°	4008.8	4007.1	4038.7	4149.3	4314.5	4412.9	4376.0	4237.2	4158.1	4135.3	4124.8
62.5°	4051.0	4052.7	4108.9	4305.7	4569.2	4702.7	4637.7	4425.2	4302.2	4279.3	4282.9
65°	4089.6	4084.3	4158.1	4437.4	4845.0	5025.9	4938.1	4651.8	4472.6	4426.9	4426.9
67.5°	4117.7	4123.0	4233.7	4569.2	5113.8	5372.0	5243.8	4892.4	4655.3	4586.8	4578.0
70°	3762.9	3813.8	4159.9	4657.0	5326.3	5677.7	5509.0	5040.0	4662.3	4467.3	4448.0
72.5°	2858.2	2905.6	3654.0	4500.7	5435.3	5881.5	5607.4	4852.0	4237.2	3989.5	3915.7
75°	1884.9	1918.3	2722.9	3931.5	5133.1	5688.2	5106.8	4179.2	3336.0	3014.5	3033.8
77.5°	839.7	946.9	1735.6	3067.2	4228.4	4578.0	3894.6	2851.1	2037.8	1725.1	1691.7
80°	351.3	384.7	655.3	1635.5	2450.6	2345.2	1658.3	955.7	607.8	472.6	456.7
82.5°	101.9	105.4	130.0	282.8	498.9	586.7	353.1	179.2	170.4	135.3	124.7
85°	7.0	7.0	10.5	17.6	24.6	40.4	45.7	52.7	59.7	50.9	50.9
87.5°	3.5	3.5	3.5	5.3	5.3	7.0	5.3	5.3	5.3	5.3	5.3
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

Streetworks

Report Number: SP1-2407-157-2

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-722-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-722-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/20/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-SA-30-722-U-5WQ-2**
 Description: Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 2253
 CIE u': 0.2868
 CIE v': 0.5332
 Duv: -0.0014
 CIE x: 0.4974
 CIE y: 0.4110
 CIE z: 0.0915
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 587
 Purity: 72.69432
 Rf: 76.9
 Rg: 92.7

CRI (Ra):	70.6		
R1:	68.4	R9:	-36.0
R2:	88.7	R10:	78.2
R3:	85.4	R11:	61.0
R4:	63.5	R12:	74.2
R5:	69.0	R13:	72.8
R6:	88.9	R14:	92.2
R7:	68.5	R15:	58.0
R8:	32.0		



Test Conditions

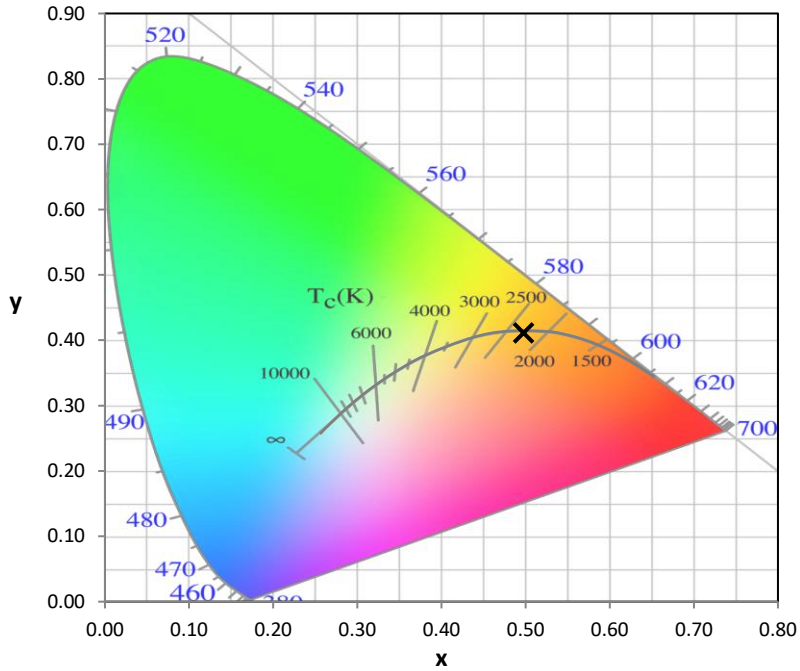
Stabilization Time: 29M
 Operation Time: 1H 29M
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2407-157-2

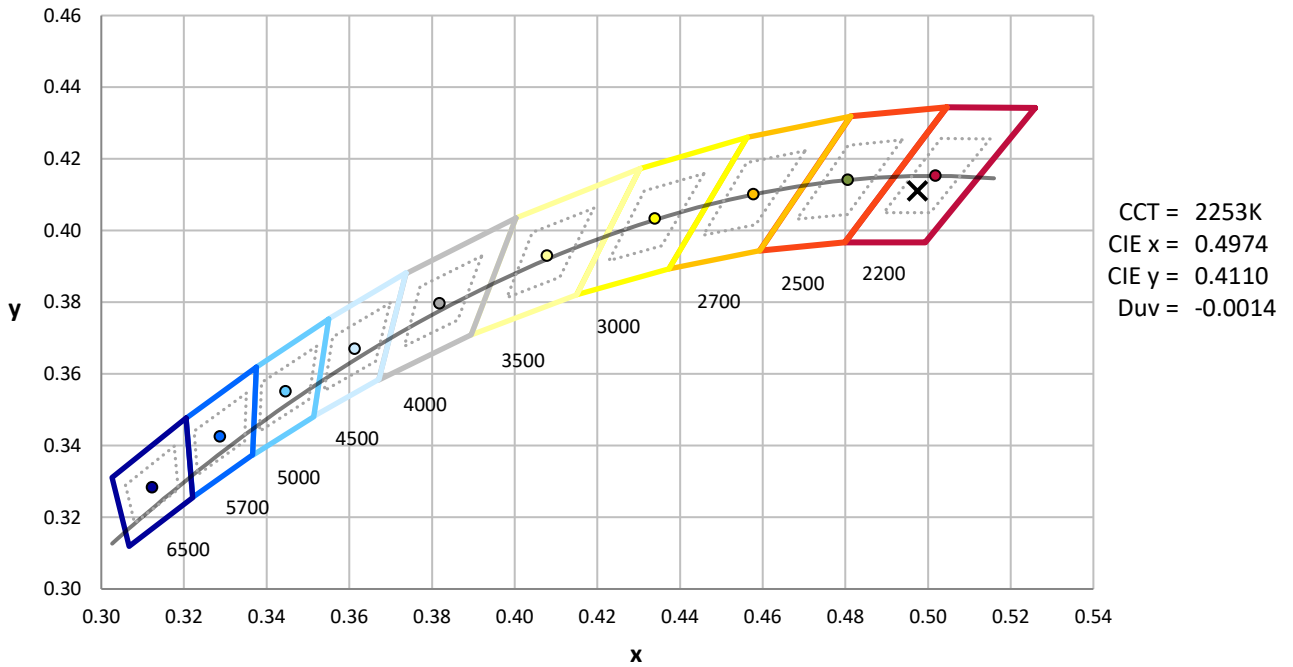
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

REPORT NUMBER: SP1-2407-157-2

CIE 1931 Chromaticity Diagram



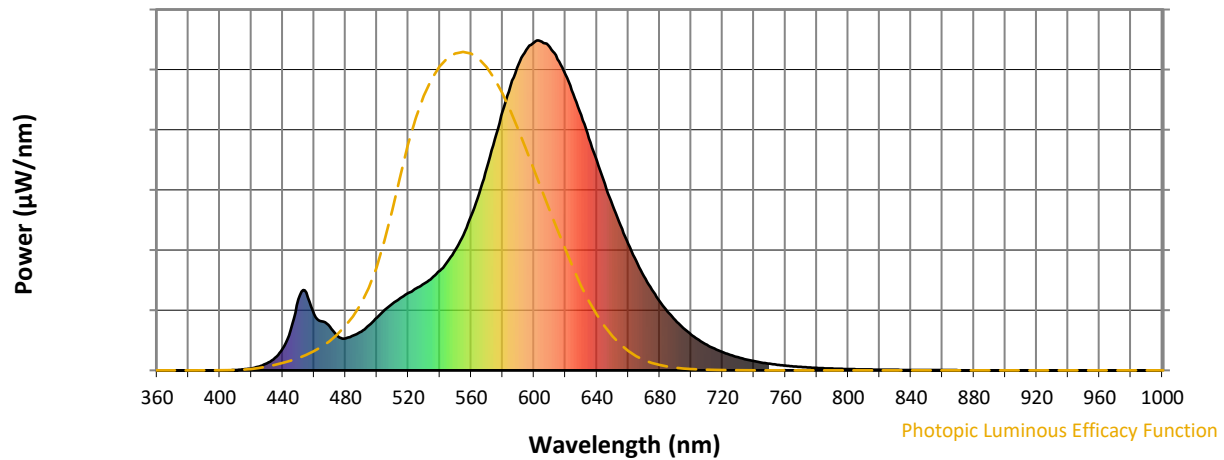
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-2

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-2

Scotopic Flux vs. Wavelength

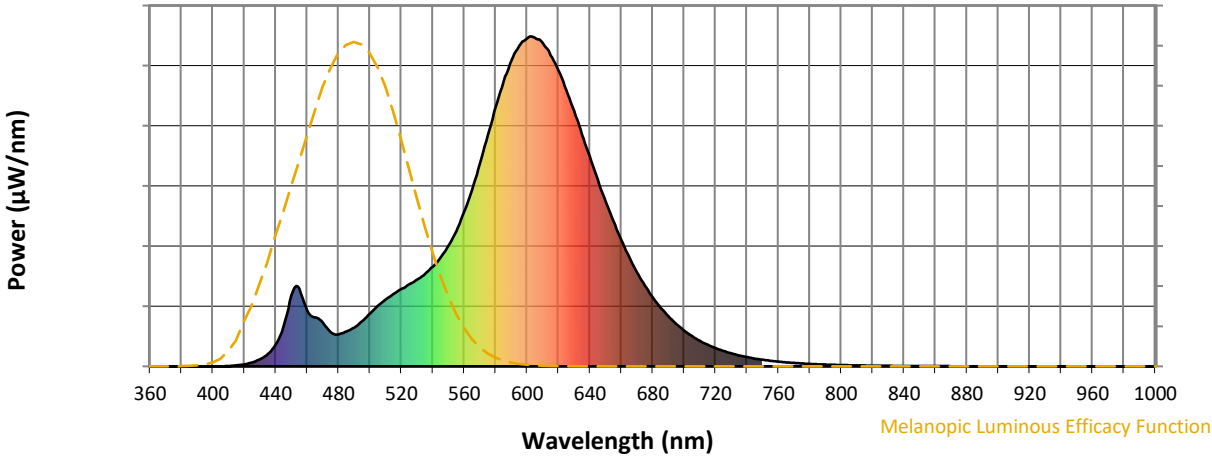


Scotopic Lumens: NR S/P: 0.96

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.71

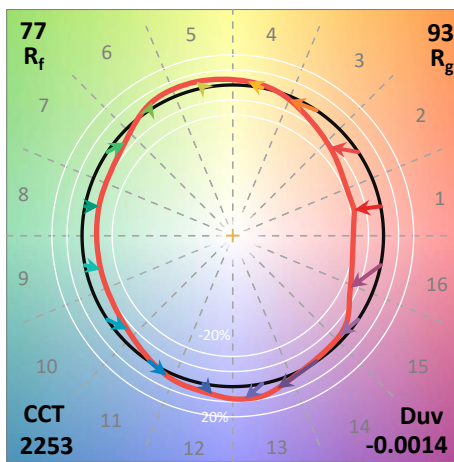
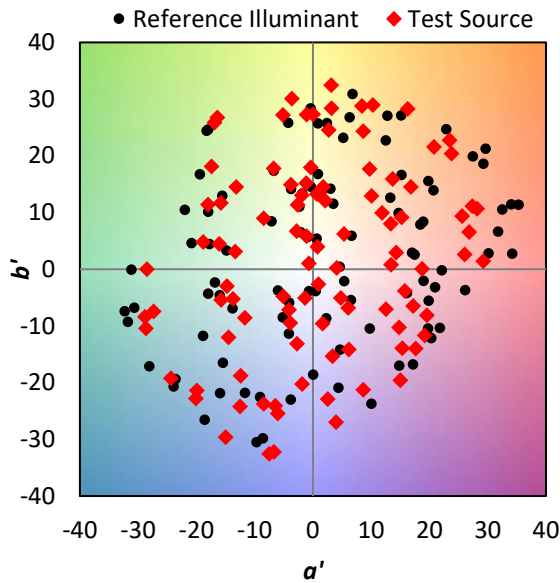
λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)
360	0	NR	490	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

Summary

$R_f = 76.9$
 $R_g = 92.7$
 CIE $R_a = 70.6$
 $R_9 = -36.0$

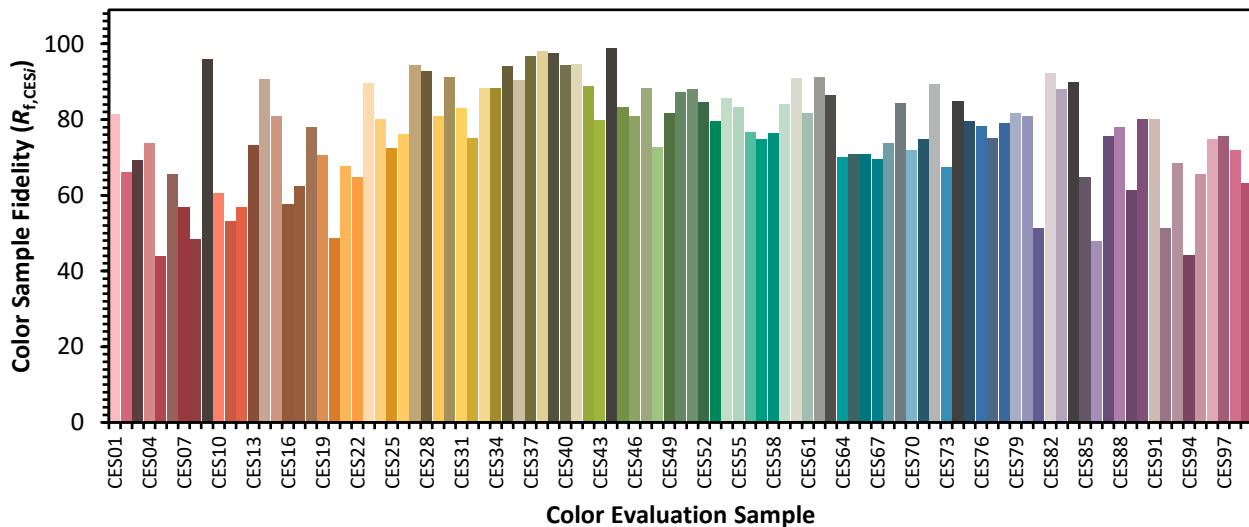


Color Vector Graphics

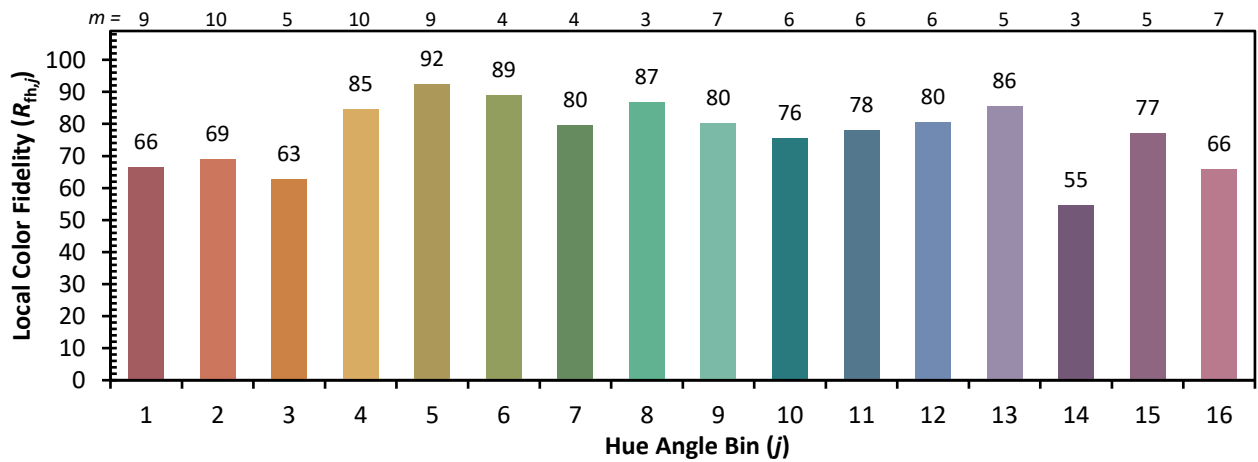


Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 87	CES26 = 76	CES51 = 88	CES76 = 78
CES02 = 65	CES27 = 94	CES52 = 85	CES77 = 75
CES03 = 32	CES28 = 93	CES53 = 80	CES78 = 79
CES04 = 72	CES29 = 81	CES54 = 86	CES79 = 82
CES05 = 51	CES30 = 91	CES55 = 83	CES80 = 81
CES06 = 52	CES31 = 83	CES56 = 77	CES81 = 51
CES07 = 44	CES32 = 75	CES57 = 75	CES82 = 92
CES08 = 42	CES33 = 88	CES58 = 76	CES83 = 88
CES09 = 29	CES34 = 88	CES59 = 84	CES84 = 90
CES10 = 79	CES35 = 94	CES60 = 91	CES85 = 65
CES11 = 62	CES36 = 90	CES61 = 82	CES86 = 48
CES12 = 68	CES37 = 97	CES62 = 91	CES87 = 76
CES13 = 45	CES38 = 98	CES63 = 86	CES88 = 78
CES14 = 75	CES39 = 97	CES64 = 70	CES89 = 61
CES15 = 72	CES40 = 94	CES65 = 71	CES90 = 80
CES16 = 48	CES41 = 95	CES66 = 71	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 70	CES92 = 51
CES18 = 57	CES43 = 80	CES68 = 74	CES93 = 68
CES19 = 74	CES44 = 99	CES69 = 84	CES94 = 44
CES20 = 68	CES45 = 83	CES70 = 72	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 75	CES96 = 75
CES22 = 81	CES47 = 88	CES72 = 89	CES97 = 76
CES23 = 92	CES48 = 73	CES73 = 68	CES98 = 72
CES24 = 92	CES49 = 82	CES74 = 85	CES99 = 63
CES25 = 73	CES50 = 87	CES75 = 80	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)