

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P1445127

Luminaire Tested: TPTN-VA2-830-U-WQ-GM

Issue Date: 05/21/2026

Test Information

Test Method: LM-79-2024
Report Number: P1445127
Test Lab: INNOVATION CENTER(G1)
Issue Date: 5/21/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: MCGRAW-EDISON
Catalog Number: TPTN-VA2-830-U-WQ-GM
Description: TOPTIER NANO SPIDER MOUNT VISUAL COMFORT LED LUMINAIRE 42W 80CRI 3000K w/
TYPE V WIDE DISTRIBUTION OPTIC
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3960.4 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Luminous Opening: Circular (Dia: 0.71' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G2

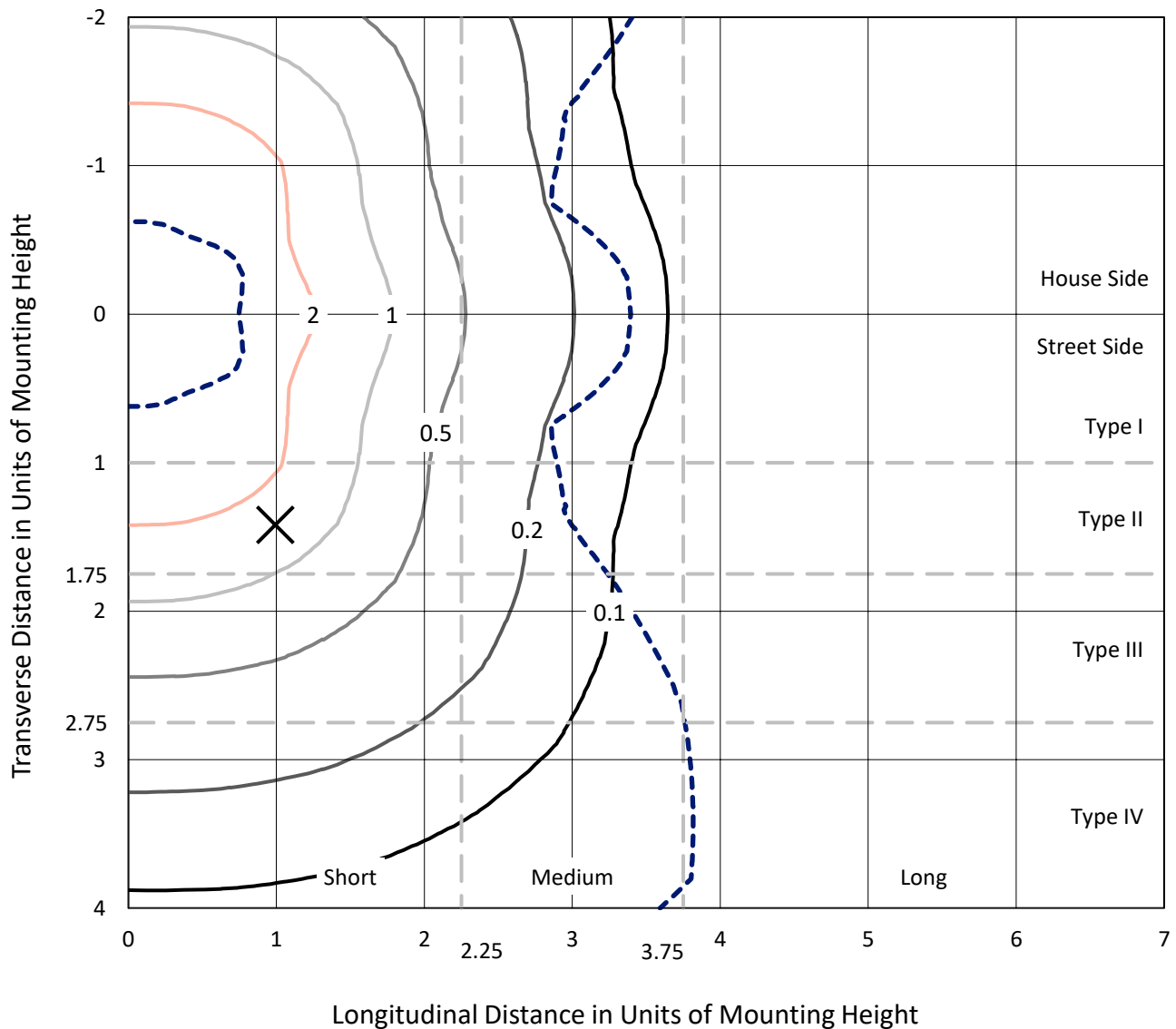
Input Watts (W): 42.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.98
Total Harmonic Distortion (THDi): 7.5%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

REPORT NUMBER: P1445127

CATALOG NUMBER: TPTN-VA2-830-U-WQ-GM

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
- - - 1/2 Max cd

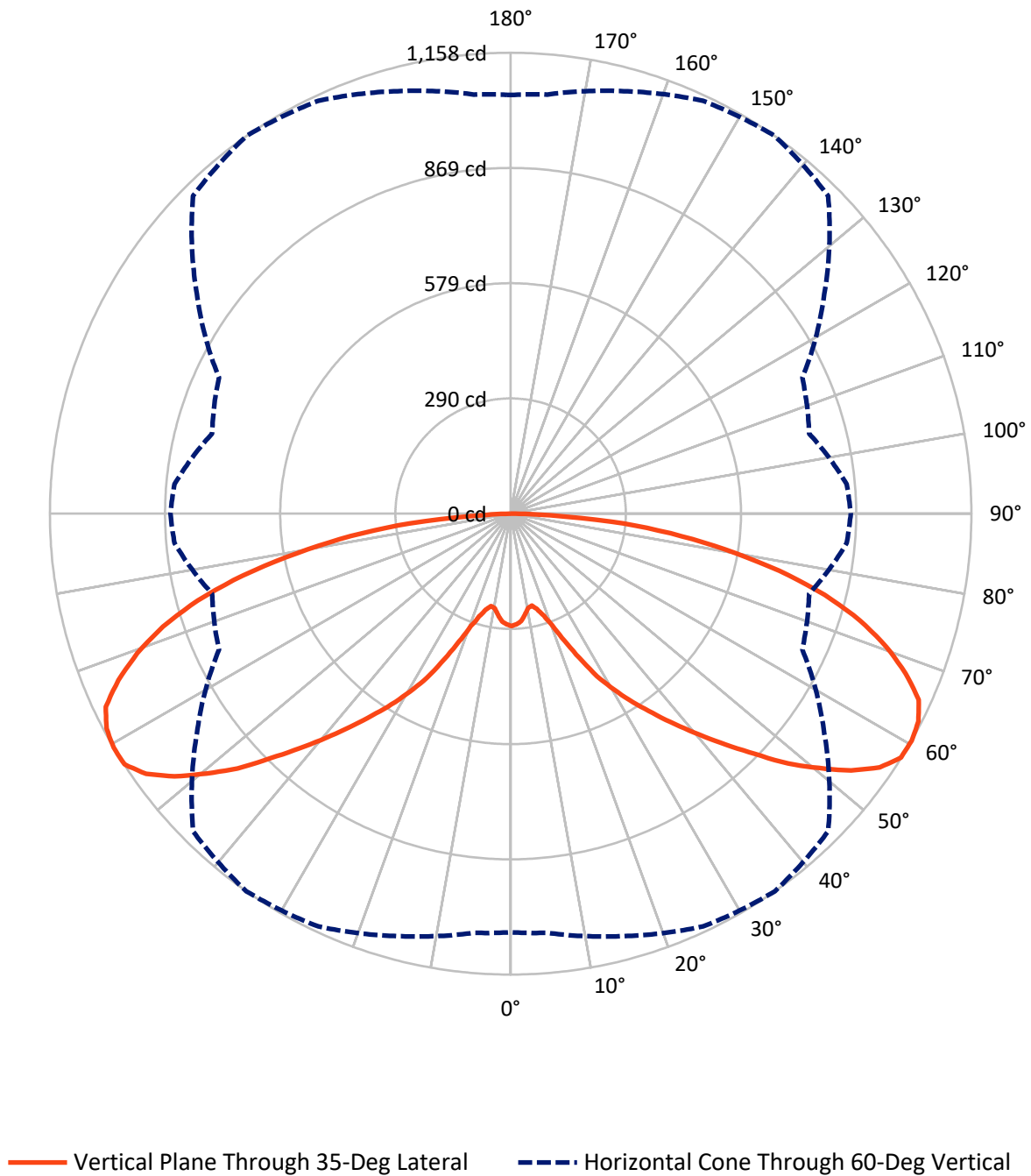


Based on 10 foot mounting height. Maximum calculated value = 3.5 fc
Type IV - Short - N/A

REPORT NUMBER: P1445127

CATALOG NUMBER: TPTN-VA2-830-U-WQ-GM

Luminous Intensity Polar Plot



REPORT NUMBER: P1445127

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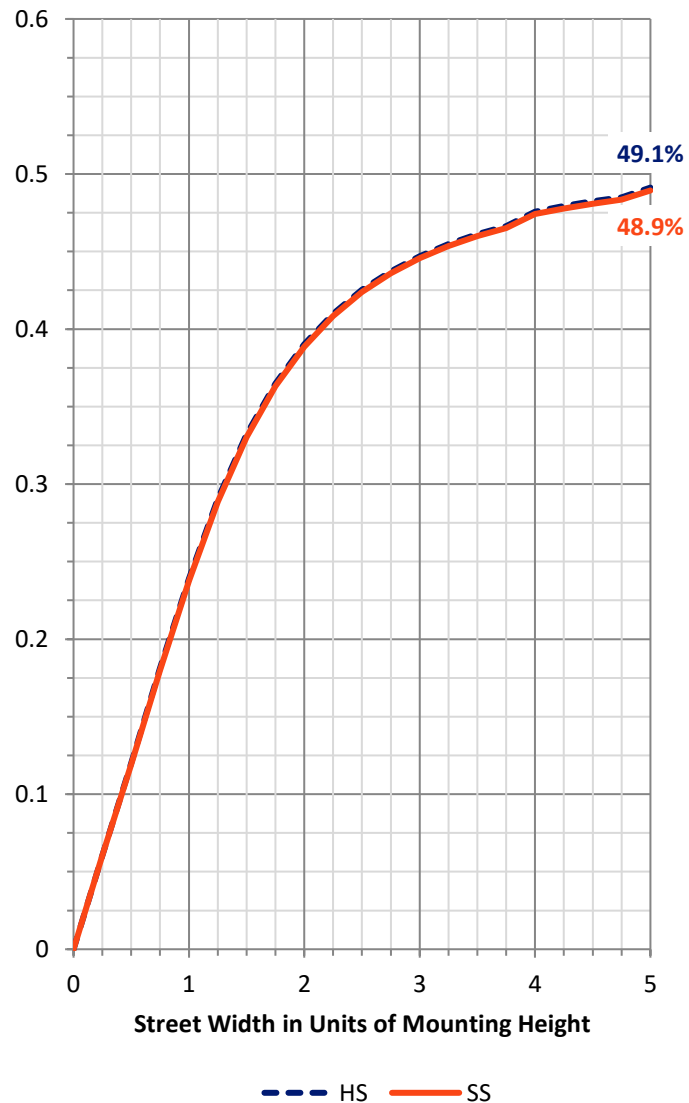
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1980.2	0.0	1980.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	1980.2	0.0	1980.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	3960.4	0.0	3960.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.1	0.6
10°-20°	75.0	1.9
20°-30°	183.4	4.6
30°-40°	365.5	9.2
40°-50°	611.5	15.4
50°-60°	872.1	22.0
60°-70°	929.6	23.5
70°-80°	691.5	17.5
80°-90°	206.6	5.2
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°	3960.4	100.0
0°-180°	3960.4	100.0

Coefficient of Utilization



REPORT NUMBER: P1445127

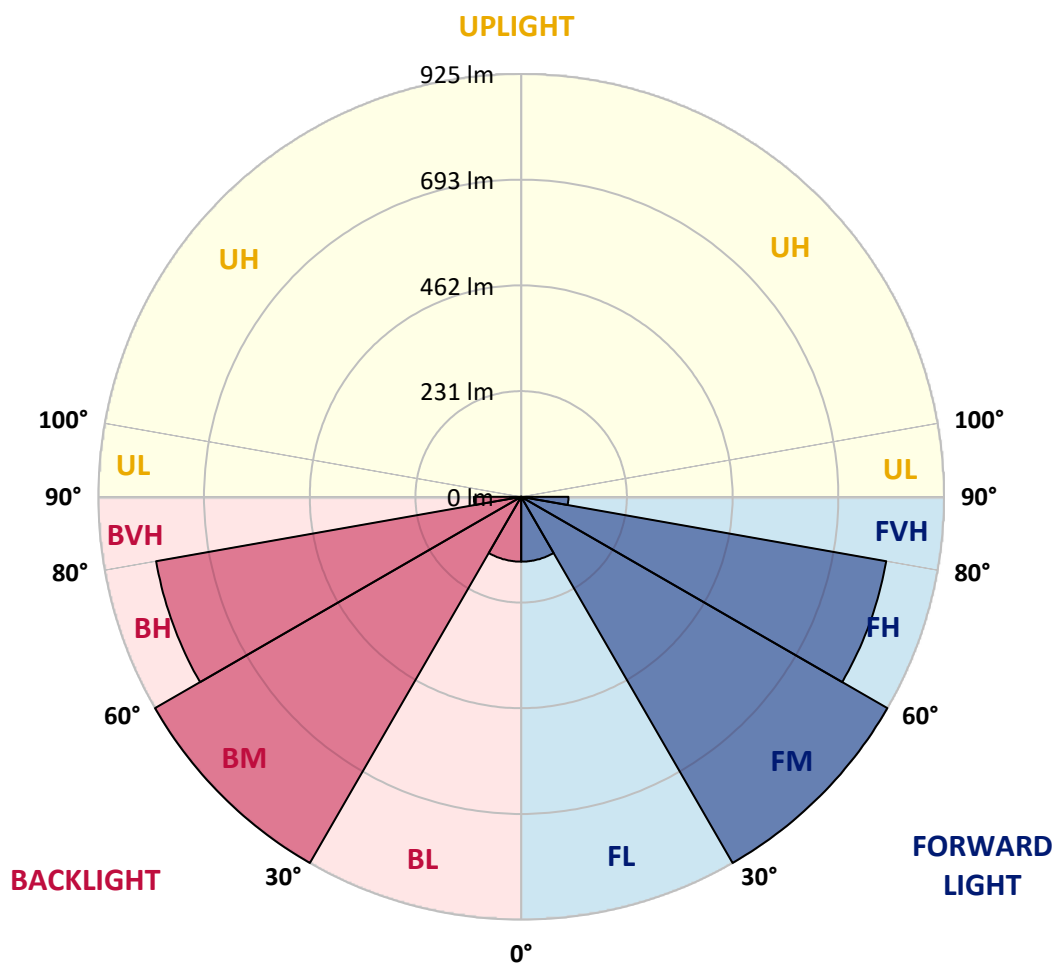
CATALOG NUMBER: TPTN-VA2-830-U-WQ-GM

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	141.8	3.6			
FM	(30°-60°)	924.5	23.3			
FH	(60°-80°)	810.6	20.5			G1/1800
FVH	(80°-90°)	103.3	2.6			G2/225
BL	(0°-30°)	141.8	3.6	B1/500		
BM	(30°-60°)	924.5	23.3	B1/1000		
BH	(60°-80°)	810.6	20.5	B2/1000		G2/1000
BVH	(80°-90°)	103.3	2.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short



REPORT NUMBER: P1445127

CATALOG NUMBER: TPTN-VA2-830-U-WQ-GM

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	282.2	282.2	282.2	282.2	282.2	282.2	282.2	282.2	282.2	282.2	282.2
2.5°	279.6	279.6	278.9	278.9	278.3	278.3	278.3	278.3	278.9	278.9	278.9
5°	271.1	270.5	271.1	271.1	271.8	271.8	273.7	275.7	276.3	277.0	277.0
7.5°	252.9	252.2	253.5	254.8	256.8	259.4	261.3	263.3	264.6	265.9	266.5
10°	238.5	238.5	238.5	239.8	241.1	244.4	249.6	253.5	256.8	258.7	259.4
12.5°	235.3	235.3	235.3	235.9	237.2	239.8	247.0	254.2	258.7	260.7	261.3
15°	243.7	243.7	244.4	246.3	248.9	250.3	256.1	264.6	270.5	275.0	275.0
17.5°	257.4	257.4	262.6	267.2	269.8	268.5	272.4	279.6	288.7	295.2	295.9
20°	284.1	286.1	295.2	300.4	299.8	294.6	294.6	301.1	312.8	321.9	324.5
22.5°	333.0	334.3	343.4	347.4	346.7	333.7	324.5	329.1	344.7	356.5	359.1
25°	393.0	396.2	403.4	411.2	401.4	380.6	363.0	361.7	378.6	394.9	398.8
27.5°	466.6	466.6	471.2	473.1	462.7	434.0	409.3	400.8	417.1	436.6	439.9
30°	528.5	529.8	524.0	518.1	513.5	477.7	447.7	437.3	452.9	473.8	476.4
32.5°	593.0	590.4	575.4	567.6	565.0	525.3	488.8	473.8	485.5	510.3	512.2
35°	649.7	645.8	625.6	616.5	615.2	576.1	529.2	508.3	518.8	546.1	550.7
37.5°	707.7	702.5	679.7	672.6	671.2	634.1	572.8	544.2	555.9	586.5	589.1
40°	761.8	759.2	737.7	732.5	729.9	694.1	617.8	585.2	591.7	628.2	631.5
42.5°	814.0	814.6	801.6	794.4	793.1	754.0	668.0	624.3	632.1	671.9	676.5
45°	870.0	870.0	866.1	862.2	860.9	825.7	722.7	667.3	672.6	716.2	722.1
47.5°	928.0	931.9	933.2	935.8	938.4	902.0	782.0	714.3	711.0	761.2	766.4
50°	977.5	980.8	999.1	1001.7	1004.9	969.1	834.2	752.1	746.2	799.0	802.2
52.5°	1019.3	1023.2	1050.5	1065.5	1072.0	1031.6	889.6	785.9	772.3	829.6	834.8
55°	1053.1	1057.1	1090.3	1118.3	1125.5	1095.5	933.2	813.3	790.5	852.4	861.5
57.5°	1059.0	1063.6	1106.6	1140.5	1156.8	1130.7	960.0	817.9	791.8	855.7	864.2
60°	1051.8	1057.1	1098.8	1144.4	1158.1	1128.7	962.6	808.8	776.8	847.9	855.0
62.5°	1034.2	1043.4	1081.2	1126.1	1150.2	1117.7	955.4	785.9	756.6	833.5	838.7
65°	989.3	996.4	1052.5	1090.3	1127.4	1089.6	935.8	753.4	728.6	794.4	797.7
67.5°	922.2	930.6	983.4	1046.6	1070.7	1040.8	891.5	715.6	669.9	735.1	742.3
70°	860.9	862.8	905.2	977.5	1001.7	986.0	838.7	658.9	608.7	679.1	687.5
72.5°	775.5	780.7	823.7	887.6	918.9	912.4	773.6	590.4	542.9	611.9	615.2
75°	668.0	675.2	721.4	779.4	815.9	809.4	688.8	510.9	469.9	525.3	527.9
77.5°	552.0	561.8	600.2	656.3	690.8	684.9	583.9	426.9	382.5	430.1	432.7
80°	426.9	434.7	471.8	523.3	546.8	548.1	469.2	330.4	292.0	329.8	329.1
82.5°	292.6	303.0	337.6	375.4	405.4	408.6	346.1	235.9	200.7	222.2	222.2
85°	151.8	158.4	187.7	225.5	254.2	262.0	218.3	139.5	106.9	110.8	104.9
87.5°	28.0	28.7	33.9	45.0	60.6	63.2	54.7	40.4	28.0	19.6	13.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2411-284-4

Test Date: 11/22/2024

Luminaire Tested: TTN-D0-830-U-WQ

Data in this report applies to families of products including TTN-D0-830-U-WQ

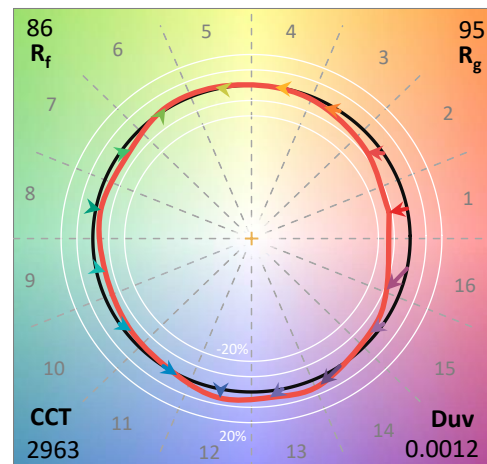
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2411-284-4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/22/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **TTN-D0-830-U-WQ**
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3000K, 80 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K): 2963
 CIE u' : 0.2515
 CIE v' : 0.5238
 Duv: 0.0012
 CIE x: 0.4414
 CIE y: 0.4086
 CIE z: 0.1501
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 582
 Purity: 55.12798
 Rf: 86.1
 Rg: 94.9

CRI (Ra): 82.9
 R1: 81.4
 R2: 91.9
 R3: 95.2
 R4: 81.6
 R5: 82.3
 R6: 91.4
 R7: 82.0
 R8: 57.2
 R9: 3.9
 R10: 82.5
 R11: 82.3
 R12: 76.5
 R13: 83.9
 R14: 97.8
 R15: 72.6



Test Conditions

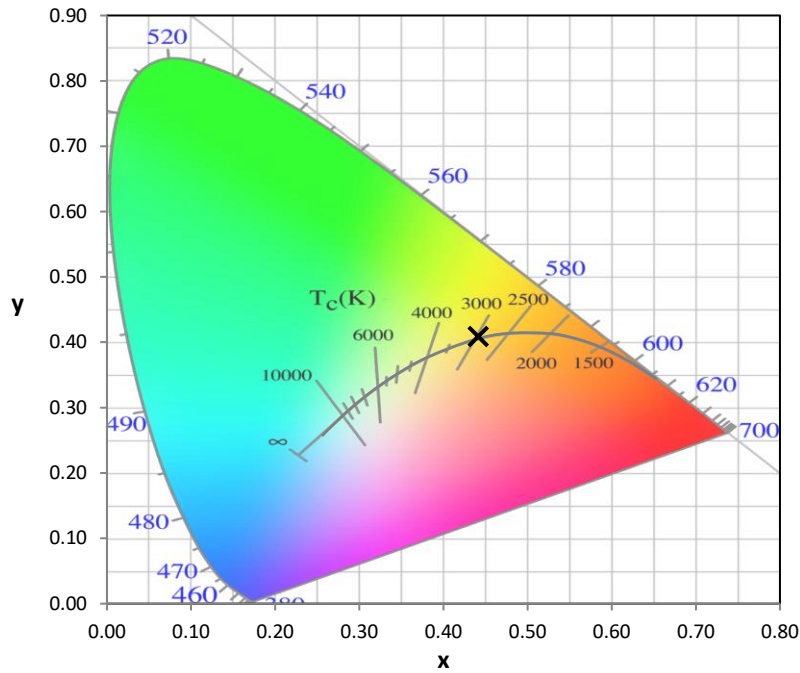
Stabilization Time: 37M
 Operation Time: 1H 37M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2411-284-4

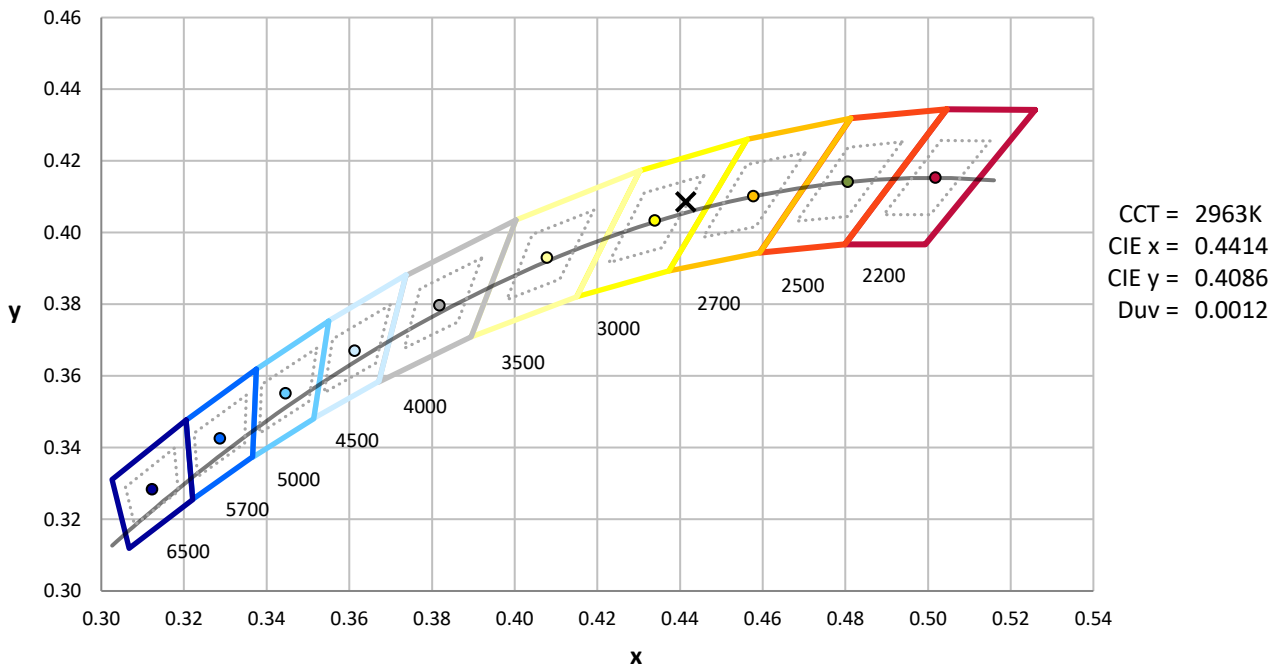
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085	10/22/2024	10/22/2025
Room Thermometer	IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2411-284-4

CIE 1931 Chromaticity Diagram



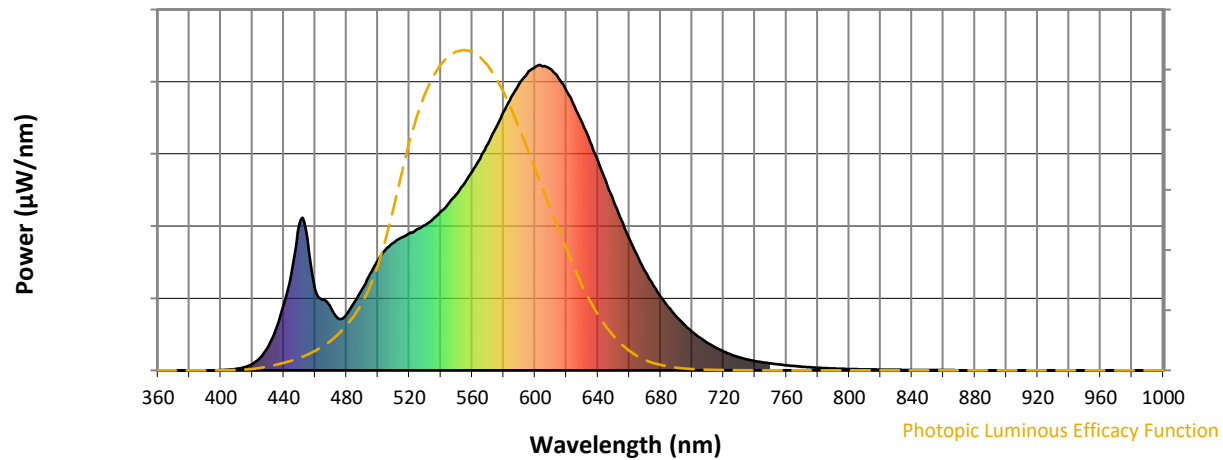
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-4

Photopic Flux vs. Wavelength

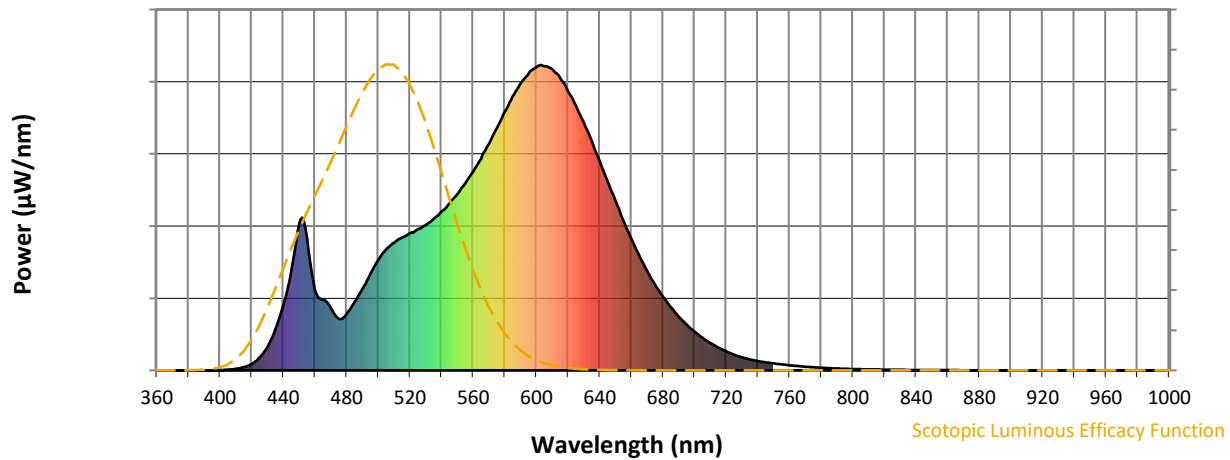


Photopic Lumens: NR

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	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-4

Scotopic Flux vs. Wavelength



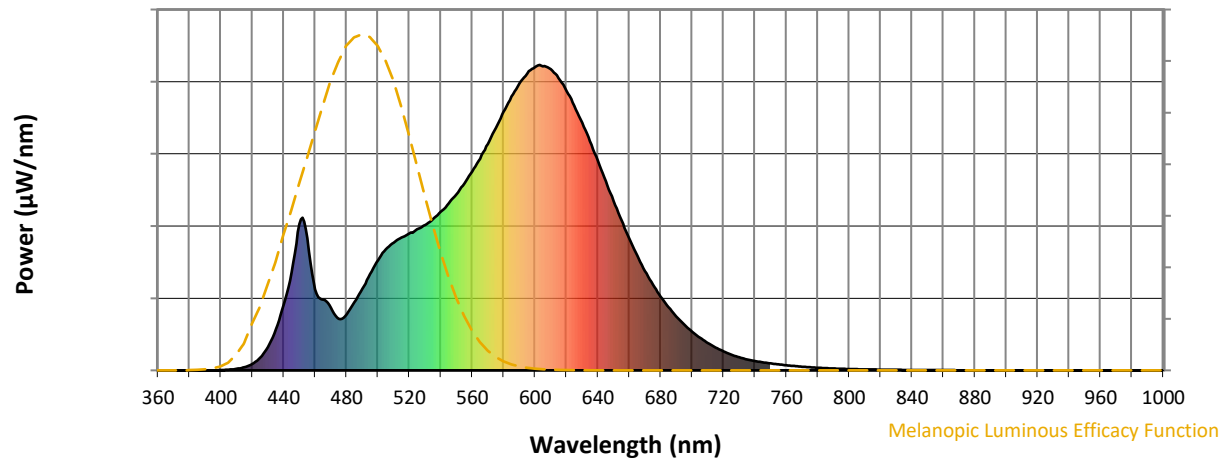
Scotopic Lumens: NR

S/P: 1.34

λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-4

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.58

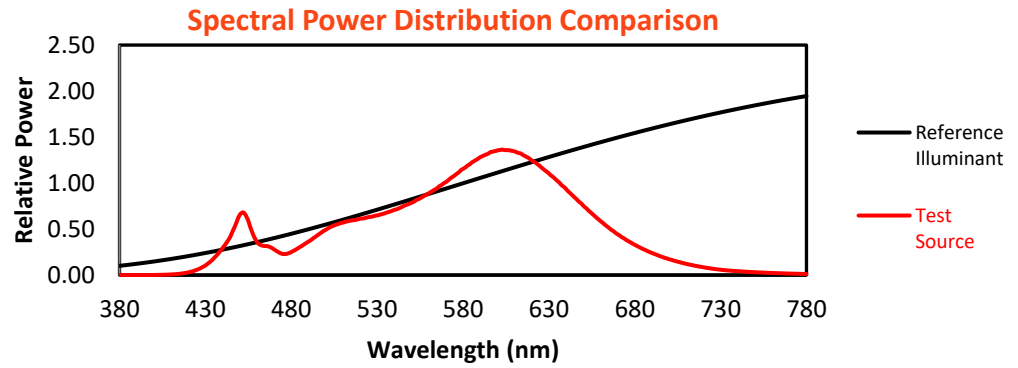
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	267	NR	620	915	NR	750	23	NR	880	0	NR
365	0	NR	495	315	NR	625	866	NR	755	20	NR	885	0	NR
370	0	NR	500	360	NR	630	811	NR	760	17	NR	890	0	NR
375	0	NR	505	396	NR	635	750	NR	765	14	NR	895	0	NR
380	0	NR	510	418	NR	640	686	NR	770	12	NR	900	0	NR
385	0	NR	515	435	NR	645	619	NR	775	10	NR	905	0	NR
390	0	NR	520	448	NR	650	554	NR	780	9	NR	910	0	NR
395	0	NR	525	462	NR	655	491	NR	785	7	NR	915	0	NR
400	1	NR	530	476	NR	660	431	NR	790	6	NR	920	0	NR
405	2	NR	535	495	NR	665	376	NR	795	5	NR	925	0	NR
410	5	NR	540	520	NR	670	325	NR	800	4	NR	930	0	NR
415	10	NR	545	547	NR	675	280	NR	805	4	NR	935	0	NR
420	21	NR	550	576	NR	680	241	NR	810	3	NR	940	0	NR
425	42	NR	555	612	NR	685	207	NR	815	3	NR	945	0	NR
430	77	NR	560	651	NR	690	176	NR	820	2	NR	950	0	NR
435	135	NR	565	693	NR	695	149	NR	825	2	NR	955	0	NR
440	215	NR	570	741	NR	700	127	NR	830	2	NR	960	0	NR
445	321	NR	575	793	NR	705	107	NR	835	2	NR	965	0	NR
450	479	NR	580	847	NR	710	89	NR	840	1	NR	970	0	NR
455	432	NR	585	897	NR	715	75	NR	845	1	NR	975	0	NR
460	265	NR	590	940	NR	720	62	NR	850	1	NR	980	0	NR
465	231	NR	595	971	NR	725	51	NR	855	1	NR	985	0	NR
470	204	NR	600	993	NR	730	43	NR	860	1	NR	990	0	NR
475	168	NR	605	996	NR	735	36	NR	865	1	NR	995	0	NR
480	183	NR	610	986	NR	740	31	NR	870	1	NR	1000	0	NR
485	223	NR	615	957	NR	745	26	NR	875	0	NR			

REPORT NUMBER: SP1-2411-284-4

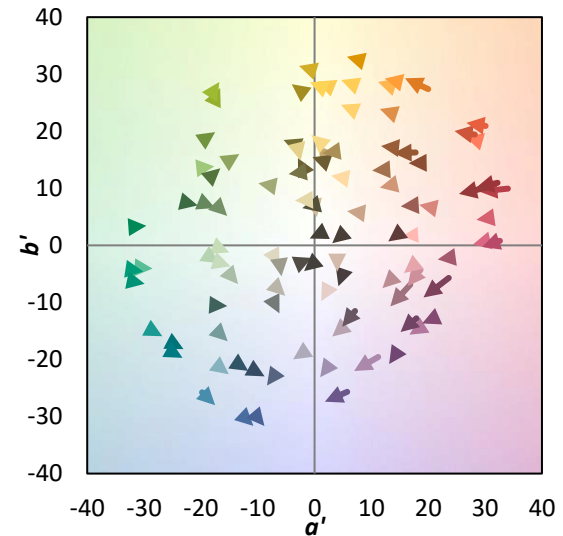
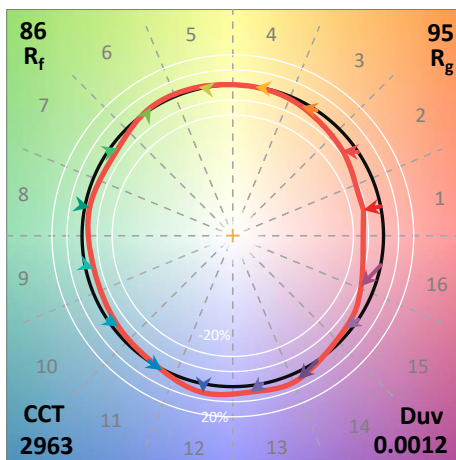
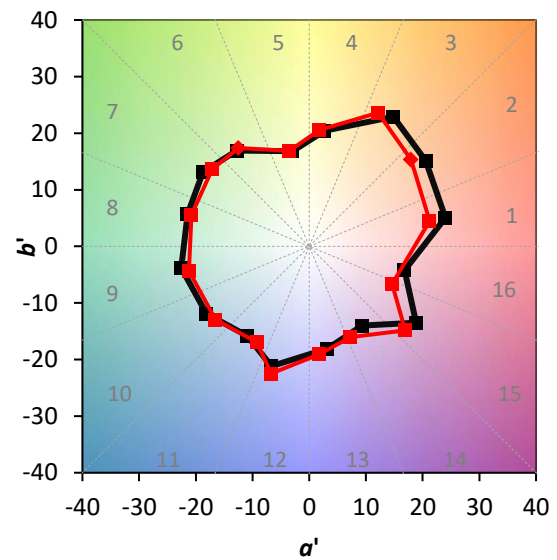
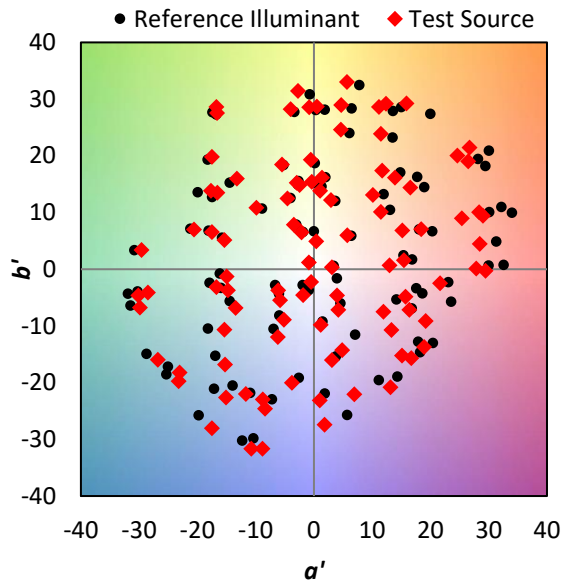
TM-30-18

Summary

$R_f = 86.1$
 $R_g = 94.9$
 $CIE R_a = 82.9$
 $R_9 = 3.9$

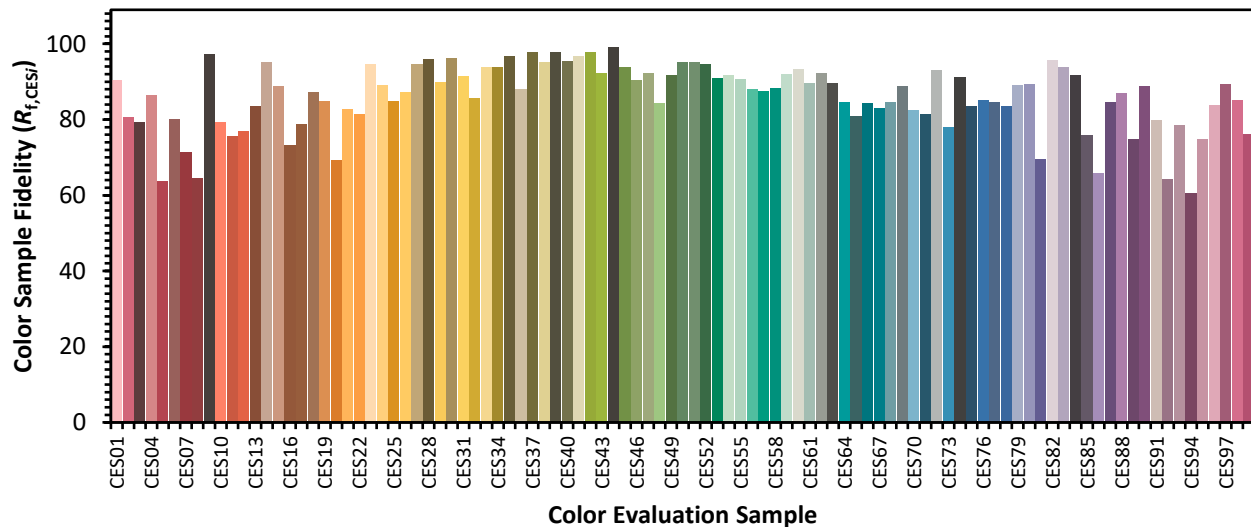


Color Vector Graphics

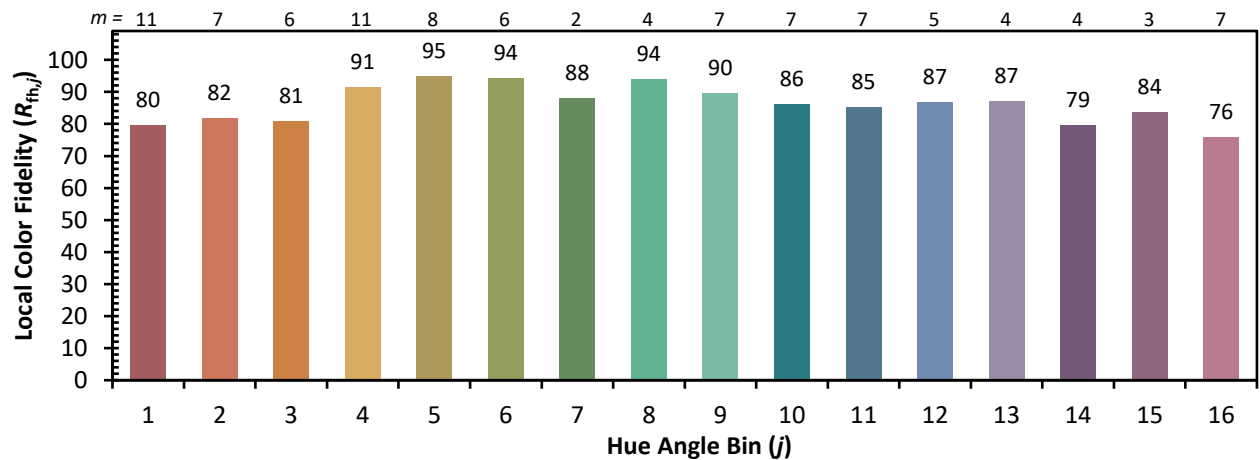
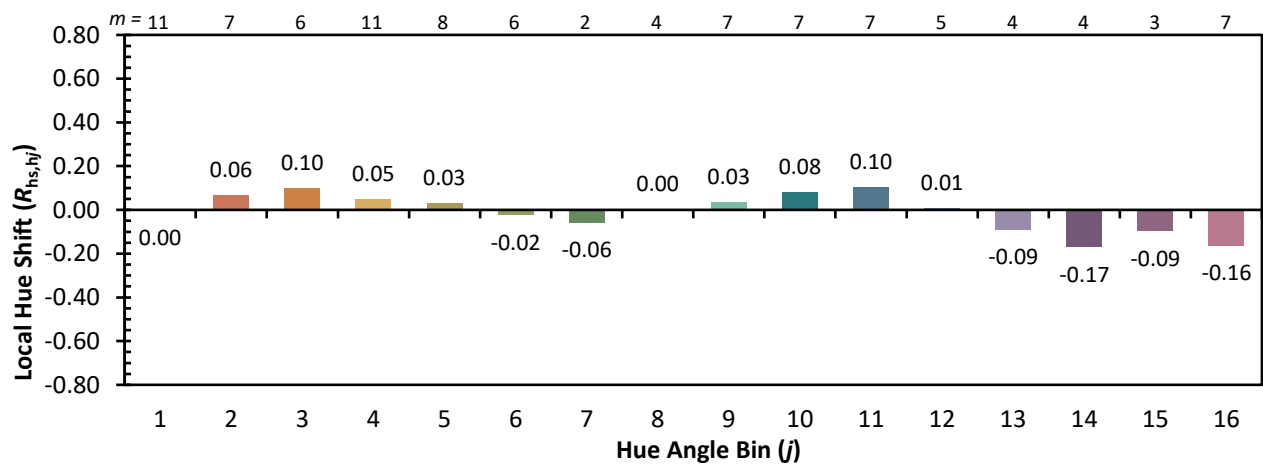
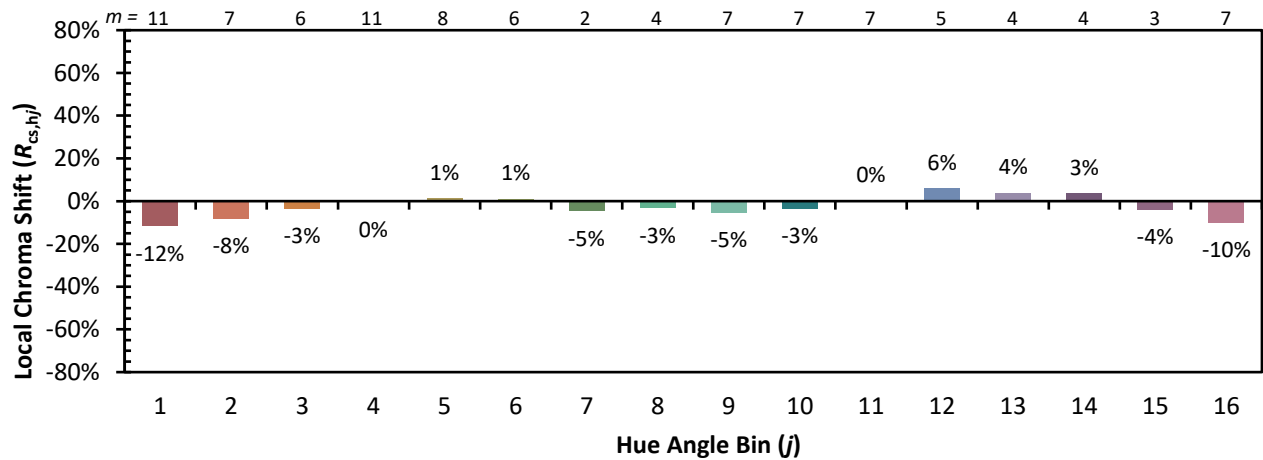


Individual Sample Fidelity Index ($R_{f,i}$)

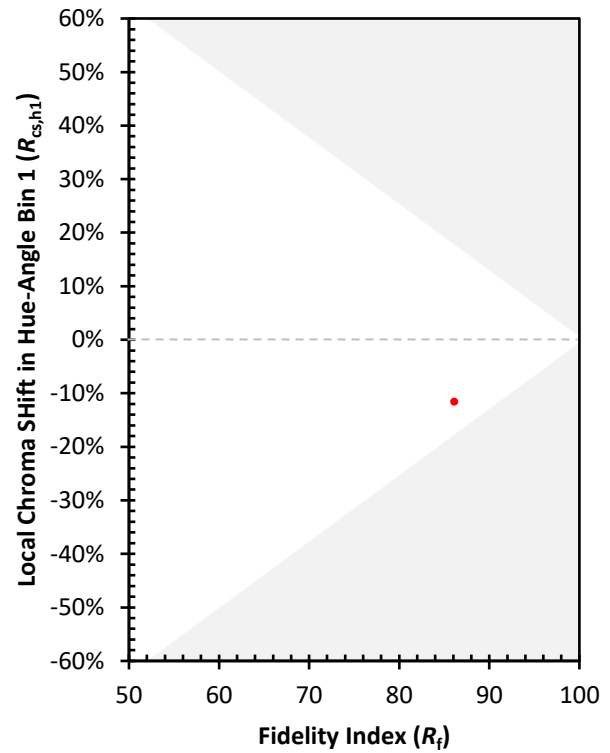
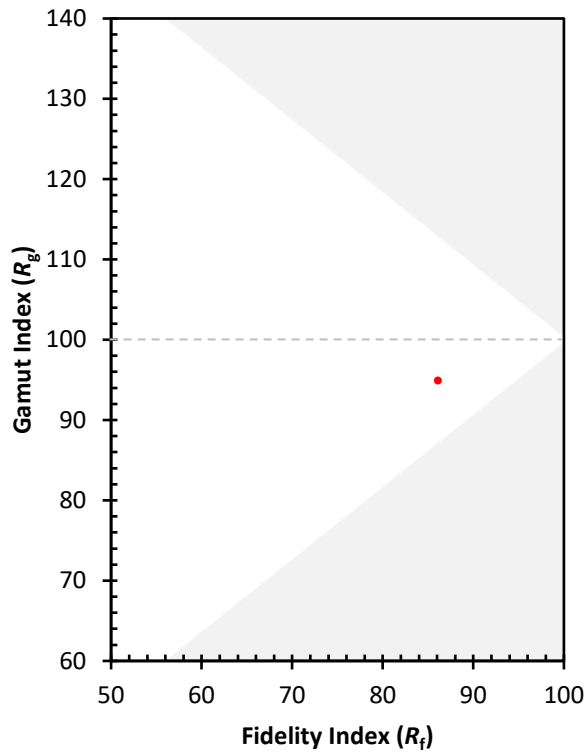
CES01 = 86	CES26 = 87	CES51 = 95	CES76 = 85
CES02 = 63	CES27 = 95	CES52 = 95	CES77 = 85
CES03 = 31	CES28 = 96	CES53 = 91	CES78 = 83
CES04 = 70	CES29 = 90	CES54 = 92	CES79 = 89
CES05 = 50	CES30 = 96	CES55 = 91	CES80 = 89
CES06 = 51	CES31 = 92	CES56 = 88	CES81 = 70
CES07 = 42	CES32 = 86	CES57 = 87	CES82 = 96
CES08 = 41	CES33 = 94	CES58 = 88	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 97	CES60 = 93	CES85 = 76
CES11 = 59	CES36 = 88	CES61 = 90	CES86 = 66
CES12 = 65	CES37 = 98	CES62 = 92	CES87 = 85
CES13 = 44	CES38 = 95	CES63 = 90	CES88 = 87
CES14 = 74	CES39 = 98	CES64 = 85	CES89 = 75
CES15 = 72	CES40 = 96	CES65 = 81	CES90 = 89
CES16 = 48	CES41 = 97	CES66 = 84	CES91 = 80
CES17 = 50	CES42 = 98	CES67 = 83	CES92 = 64
CES18 = 57	CES43 = 92	CES68 = 85	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 61
CES20 = 67	CES45 = 94	CES70 = 83	CES95 = 75
CES21 = 87	CES46 = 91	CES71 = 81	CES96 = 84
CES22 = 79	CES47 = 92	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 84	CES73 = 78	CES98 = 85
CES24 = 91	CES49 = 92	CES74 = 91	CES99 = 76
CES25 = 72	CES50 = 95	CES75 = 84	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)