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: McGRAW-EDISON

Report Number: P833689

Luminaire Tested: **TTN-D2-830-U-RW-UPL1**

Issue Date: 5/15/2024

Report Generated By 670246001

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P833689
	REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G3-2308-121-4) AND
Test Lab:	INNOVATION CENTER
Issue Date:	5/15/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TTN-D2-830-U-RW-UPL1
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	3000K, 80 CRI LEDS AND RECTANGULAR DISTRIBUTION
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4914.9 lumens
Efficiency:	N/A
Efficacy:	109.0 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification:	Type II - Short
BUG Rating:	B2 - U3 - G2

Input Watts (W):	45.1
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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REPORT NUMBER: P833689
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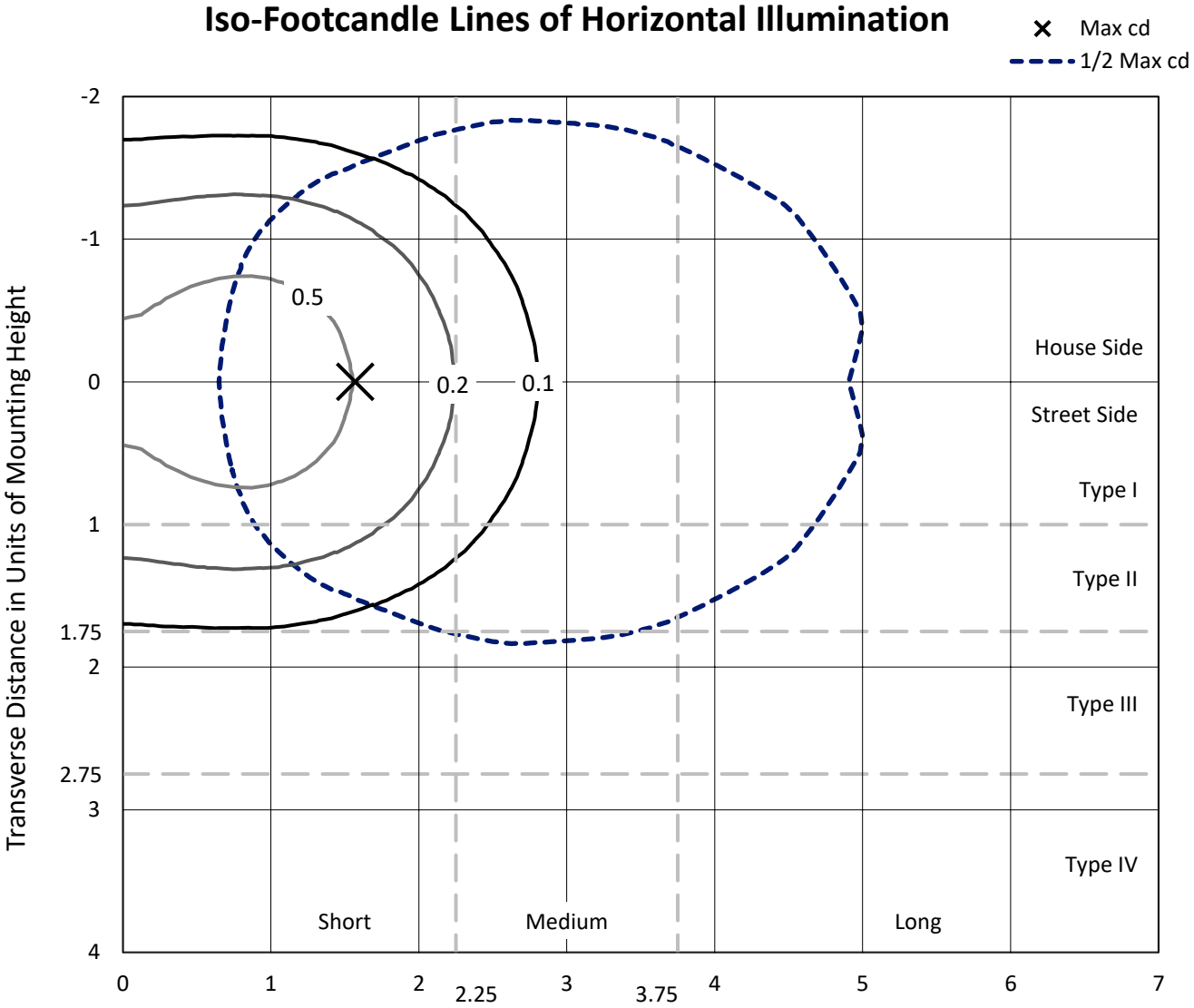
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc
Type II - Short - N/A

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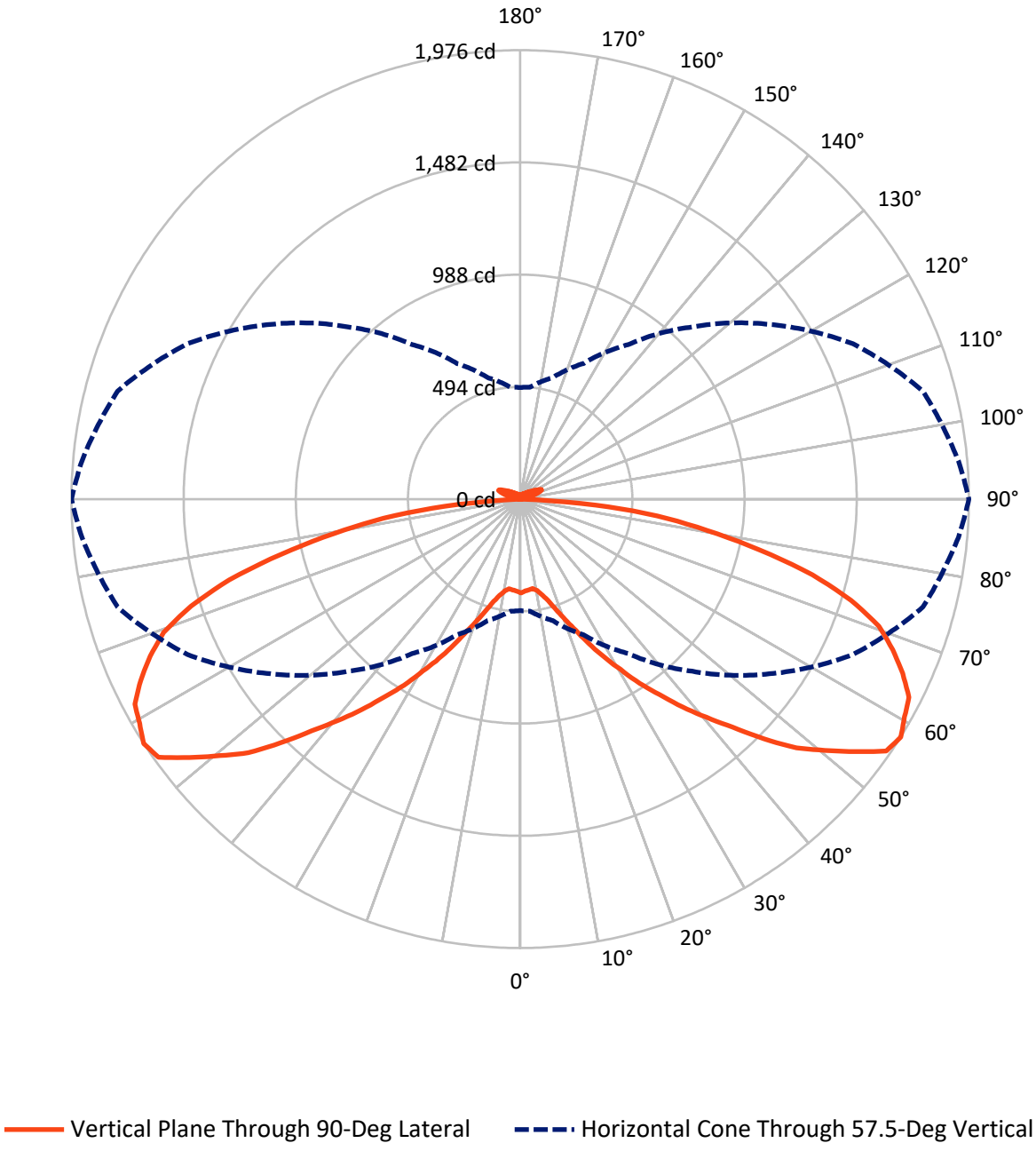
Luminous Intensity Polar Plot



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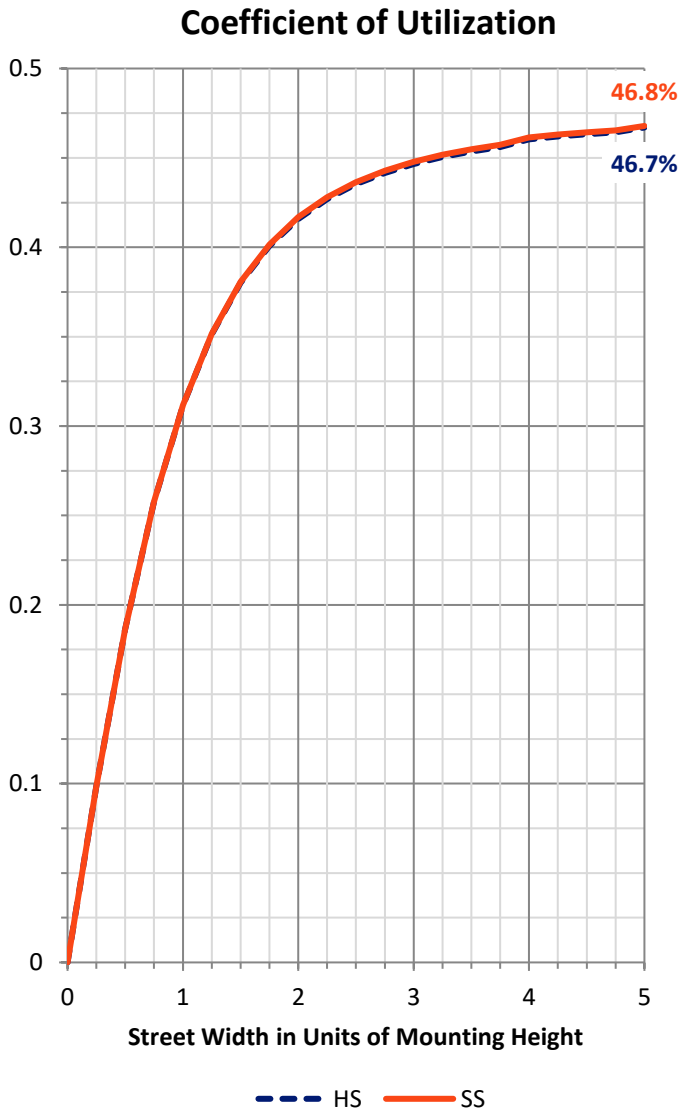
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2309.7	147.7	2457.4
	% Fixture	47.0	3.0	50.0
Street Side	Lumens	2309.7	147.7	2457.4
	% Fixture	47.0	3.0	50.0
Total	Lumens	4619.4	295.5	4914.9
	% Fixture	94.0	6.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.7	0.8
10°-20°	123.9	2.5
20°-30°	258.4	5.3
30°-40°	463.5	9.4
40°-50°	740.6	15.1
50°-60°	1013.9	20.6
60°-70°	1045.8	21.3
70°-80°	743.8	15.1
80°-90°	190.8	3.9
90°-100°	6.6	0.1
100°-110°	67.0	1.4
110°-120°	98.0	2.0
120°-130°	56.9	1.2
130°-140°	30.1	0.6
140°-150°	17.9	0.4
150°-160°	11.0	0.2
160°-170°	6.0	0.1
170°-180°	2.0	0.0
0°-90°	4619.4	94.0
0°-180°	4914.9	100.0



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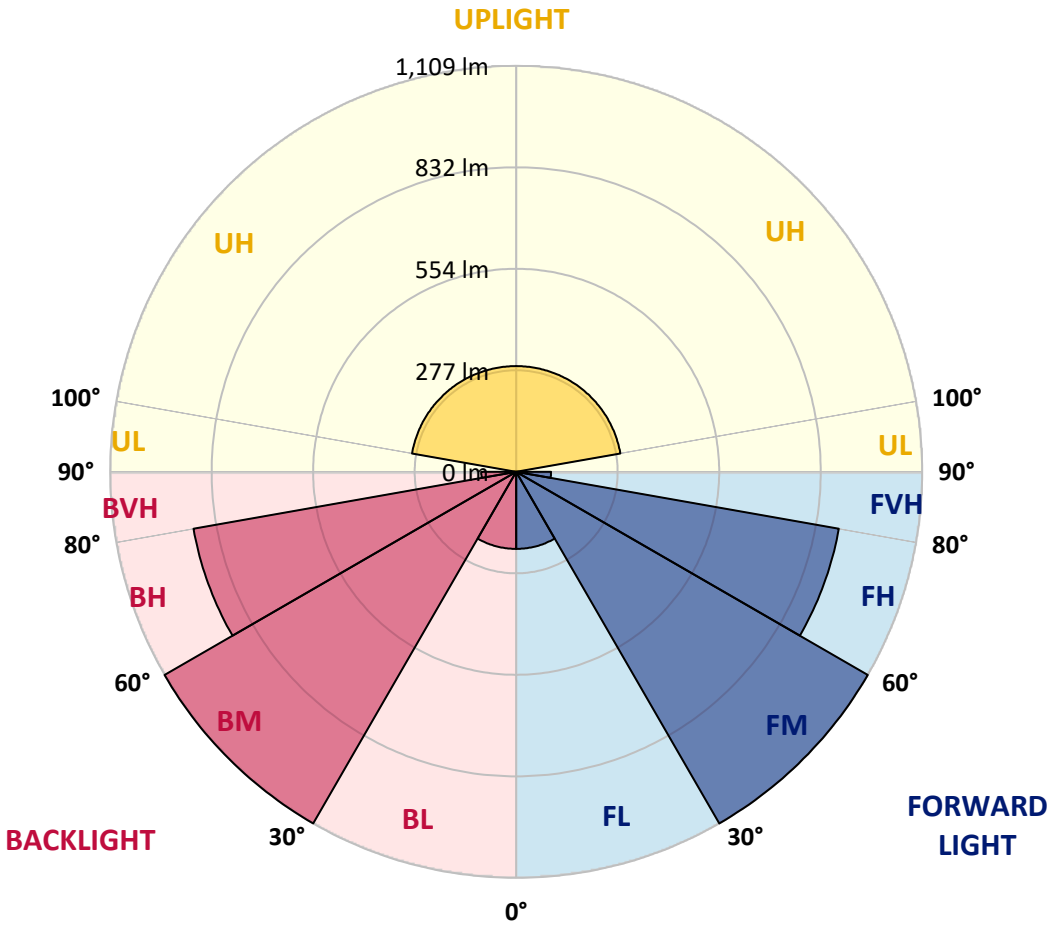
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	210.5	4.3			
FM	(30°-60°)	1109.0	22.6			
FH	(60°-80°)	894.8	18.2			G1/1800
FVH	(80°-90°)	95.4	1.9			G1/100
BL	(0°-30°)	210.5	4.3	B1/500		
BM	(30°-60°)	1109.0	22.6	B2/2500		
BH	(60°-80°)	894.8	18.2	B2/1000		G2/1000
BVH	(80°-90°)	95.4	1.9			G1/100
UL	(90°-100°)	6.6	0.1		U1/10	
UH	(100°-180°)	288.9	5.9		U3/500	

BUG Rating: B2-U3-G2
Type II Short



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REPORT NUMBER: P833689
CATALOG NUMBER: TTN-D2-830-U-RW-UPL1

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	413.2	413.2	413.2	413.2	413.2	413.2	413.2	413.2	413.2	413.2	413.2
2.5°	413.2	413.2	409.3	409.3	409.3	405.4	405.4	405.4	405.4	401.5	405.4
5°	413.2	413.2	413.2	413.2	409.3	405.4	405.4	405.4	401.5	401.5	401.5
7.5°	409.3	409.3	409.3	409.3	405.4	401.5	401.5	401.5	397.6	397.6	397.6
10°	405.4	409.3	405.4	405.4	401.5	401.5	405.4	405.4	409.3	409.3	409.3
12.5°	401.5	401.5	401.5	405.4	405.4	409.3	417.1	424.9	428.8	432.7	432.7
15°	401.5	401.5	405.4	409.3	417.1	424.9	436.6	448.3	456.1	463.9	463.9
17.5°	401.5	401.5	405.4	417.1	428.8	444.4	463.9	479.5	495.0	506.7	510.6
20°	401.5	401.5	409.3	424.9	448.3	471.7	498.9	522.3	545.7	565.2	565.2
22.5°	405.4	409.3	417.1	436.6	471.7	506.7	541.8	576.9	604.2	627.6	627.6
25°	413.2	413.2	424.9	456.1	498.9	545.7	596.4	639.3	674.4	705.5	705.5
27.5°	417.1	421.0	436.6	475.6	530.1	588.6	658.8	709.4	756.2	783.5	787.4
30°	424.9	428.8	452.2	491.1	557.4	631.5	713.3	783.5	834.2	861.5	869.3
32.5°	428.8	432.7	463.9	510.6	584.7	670.5	764.0	853.7	923.8	955.0	966.7
35°	440.5	444.4	475.6	530.1	615.9	713.3	822.5	927.7	1009.6	1048.6	1056.4
37.5°	452.2	456.1	487.2	549.6	647.1	760.1	884.8	1005.7	1099.2	1146.0	1161.6
40°	460.0	463.9	498.9	573.0	682.1	810.8	955.0	1087.5	1192.8	1251.3	1263.0
42.5°	471.7	475.6	514.5	592.5	713.3	861.5	1029.1	1177.2	1290.2	1356.5	1372.1
45°	483.4	487.2	530.1	615.9	748.4	916.0	1103.1	1282.4	1411.1	1489.0	1504.6
47.5°	495.0	498.9	545.7	639.3	783.5	970.6	1181.1	1376.0	1531.9	1606.0	1637.2
50°	498.9	506.7	553.5	654.9	806.9	1017.4	1247.4	1469.5	1633.3	1730.7	1738.5
52.5°	502.8	510.6	561.3	666.6	826.4	1052.5	1301.9	1547.5	1738.5	1855.4	1847.7
55°	506.7	506.7	561.3	666.6	834.2	1075.8	1340.9	1598.2	1808.7	1902.2	1956.8
57.5°	491.1	495.0	553.5	658.8	830.3	1071.9	1340.9	1617.7	1836.0	1937.3	1976.3
60°	471.7	479.5	534.0	639.3	814.7	1060.3	1333.1	1609.9	1847.7	1956.8	1945.1
62.5°	444.4	460.0	506.7	612.0	791.3	1033.0	1321.4	1590.4	1820.4	1933.4	1921.7
65°	413.2	428.8	471.7	584.7	740.6	966.7	1259.1	1551.4	1746.3	1874.9	1851.5
67.5°	382.0	393.7	436.6	537.9	682.1	896.5	1177.2	1465.6	1641.1	1781.4	1769.7
70°	346.9	350.8	393.7	483.4	623.7	826.4	1099.2	1344.8	1547.5	1652.8	1676.1
72.5°	304.0	304.0	346.9	424.9	553.5	732.8	994.0	1208.4	1399.4	1489.0	1524.1
75°	249.5	253.4	288.5	358.6	463.9	627.6	845.9	1064.2	1224.0	1317.5	1329.2
77.5°	194.9	198.8	226.1	284.6	374.2	506.7	697.7	869.3	1021.3	1103.1	1079.7
80°	140.3	144.2	163.7	206.6	276.8	378.1	537.9	689.9	799.1	865.4	834.2
82.5°	85.8	89.7	101.3	128.6	175.4	245.6	366.4	479.5	565.2	619.8	608.1
85°	42.9	42.9	50.7	58.5	74.1	109.1	175.4	241.7	307.9	346.9	335.2
87.5°	7.8	11.7	11.7	11.7	11.7	7.8	11.7	11.7	11.7	19.5	7.8
90°	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5
92.5°	2.5	2.5	2.5	3.5	4.0	3.5	4.0	3.0	3.0	2.5	2.5
95°	3.0	3.0	3.5	4.5	5.6	6.1	6.1	3.5	3.5	3.0	3.0
97.5°	4.0	4.5	4.5	5.6	9.1	16.7	10.1	5.1	5.1	4.5	4.0
100°	6.6	7.1	7.1	12.6	26.8	35.9	25.8	13.1	9.6	7.1	7.1
102.5°	21.2	22.2	27.3	40.9	60.7	55.1	46.5	44.0	30.3	24.3	23.3
105°	54.1	53.6	57.6	68.2	84.9	83.4	76.8	69.8	60.2	55.6	55.6
107.5°	71.3	71.3	74.8	83.9	96.6	112.7	114.2	90.5	79.4	74.3	73.8
110°	80.4	80.4	83.4	91.0	107.7	130.4	129.4	111.7	98.1	91.5	90.5

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REPORT NUMBER: P833689
CATALOG NUMBER: TTN-D2-830-U-RW-UPL1

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	82.4	82.9	86.9	98.6	116.8	126.9	122.3	115.3	109.2	104.1	*103.1*
115°	85.4	85.4	90.0	101.1	111.2	115.3	110.2	104.6	100.6	98.6	*99.6*
117.5°	84.4	85.9	86.9	93.0	99.6	102.6	100.1	92.5	89.5	88.5	*86.9*
120°	78.4	78.4	79.4	82.4	85.9	87.5	86.4	81.4	78.9	78.4	*77.3*
122.5°	69.8	70.3	69.8	71.3	73.8	75.3	74.3	70.3	69.3	69.3	*68.2*
125°	61.2	61.2	60.7	61.7	63.2	62.7	63.2	61.2	60.7	60.7	*60.2*
127.5°	55.1	54.6	53.6	54.1	54.6	54.6	55.1	53.1	53.6	54.1	*53.6*
130°	49.0	49.0	48.0	48.0	48.0	47.0	48.0	47.0	47.5	48.0	*48.5*
132.5°	43.5	43.5	42.0	41.5	41.5	41.5	42.0	41.5	42.5	43.5	*43.5*
135°	38.9	38.9	37.4	37.9	37.9	37.4	37.9	37.4	38.4	38.9	*38.9*
137.5°	35.4	35.4	34.4	34.4	34.4	33.9	34.4	34.4	34.9	35.9	*36.4*
140°	32.4	32.4	31.8	31.8	31.3	31.8	31.8	31.8	32.4	32.9	*32.9*
142.5°	30.8	30.3	29.8	29.3	29.8	29.8	29.8	29.3	29.8	30.8	*30.8*
145°	28.3	28.3	27.8	27.8	27.8	28.3	27.8	27.8	28.3	28.3	*28.8*
147.5°	26.8	26.8	26.3	26.8	26.8	26.8	26.8	26.3	26.8	26.8	*27.3*
150°	26.3	25.8	25.3	25.8	25.8	25.3	25.3	25.3	25.3	25.8	*25.8*
152.5°	24.8	24.8	24.3	24.8	24.3	24.3	24.3	24.3	24.3	24.8	*25.3*
155°	23.8	23.8	23.3	23.8	23.8	23.8	23.8	23.8	23.8	23.8	*23.8*
157.5°	22.7	23.3	22.7	22.7	22.7	22.7	22.7	22.7	22.7	23.3	*23.3*
160°	22.2	22.2	22.2	22.2	21.7	21.7	21.7	22.2	22.2	22.2	*22.7*
162.5°	21.7	21.7	21.7	21.7	21.2	21.2	21.2	21.2	21.7	21.7	*22.2*
165°	21.7	21.2	21.2	21.2	20.7	20.7	20.7	20.7	21.2	21.7	*21.2*
167.5°	20.7	20.7	20.7	20.7	20.7	20.2	20.2	20.7	20.7	20.7	*21.2*
170°	20.7	20.7	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2	*20.7*
172.5°	20.7	20.7	20.7	20.7	20.2	20.2	20.2	20.2	20.2	20.7	*20.7*
175°	20.7	20.7	20.7	20.7	20.2	20.2	20.2	20.7	20.7	20.7	*20.2*
177.5°	20.7	20.7	20.7	20.7	20.2	20.7	20.7	20.7	20.7	20.7	*20.7*
180°	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	*20.7*

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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: SP1-2411-284-4

Test Date: 11/22/2024

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

Data in this report applies to TT and TTN families of products

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

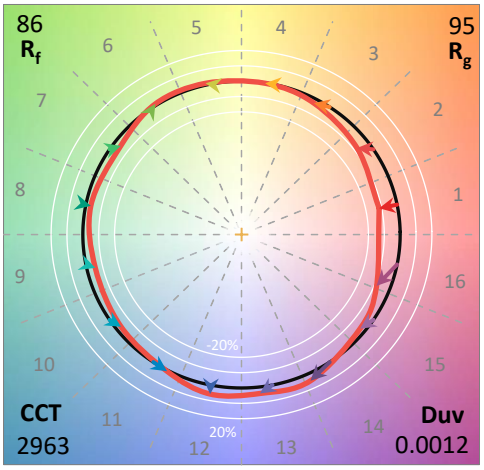
Test Information

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

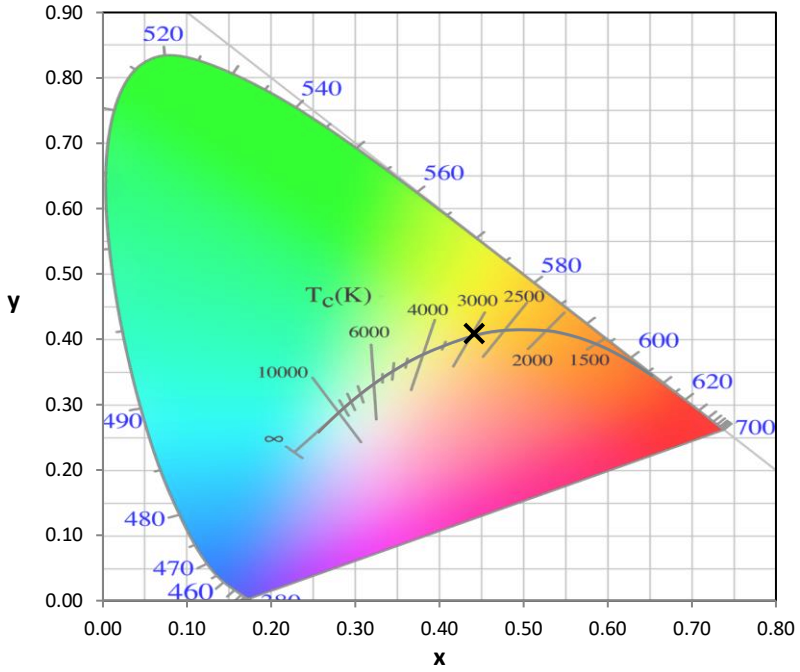
Stabilization Time:	37M
Operation Time:	1H 37M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2411-284-4

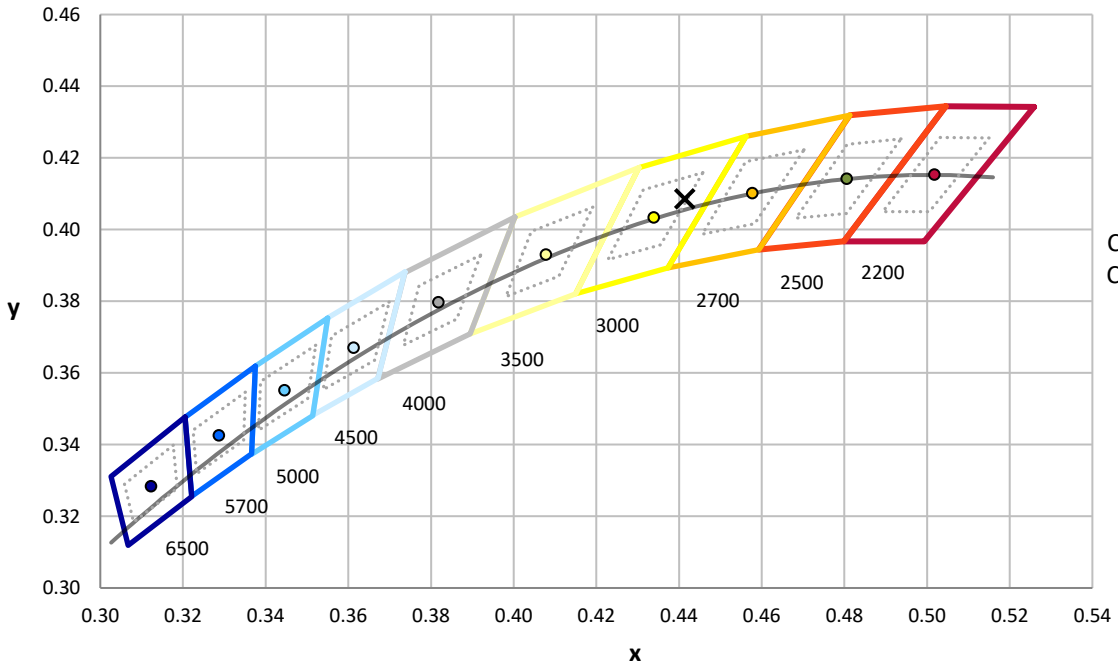
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

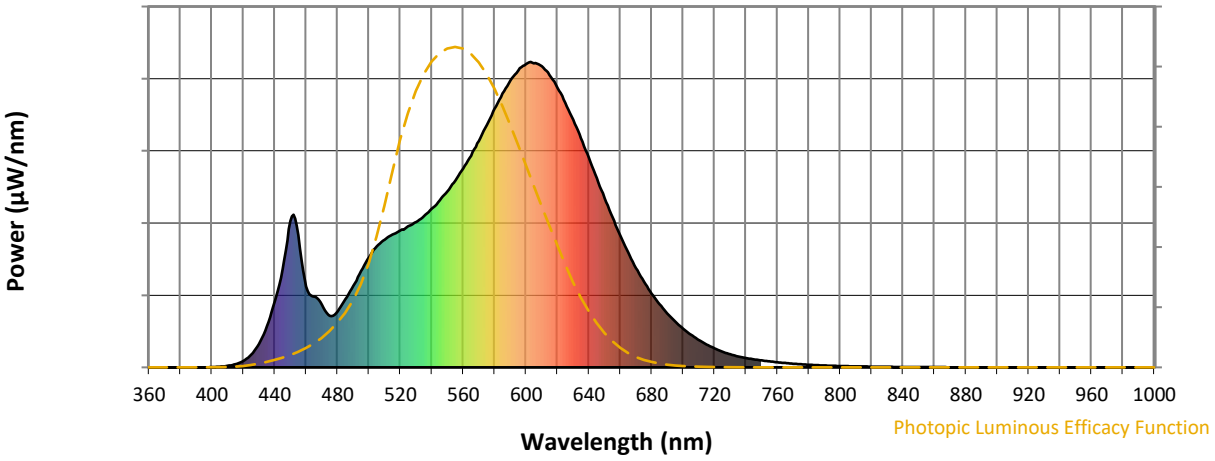


CCT = 2963K
CIE x = 0.4414
CIE y = 0.4086
Duv = 0.0012

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			

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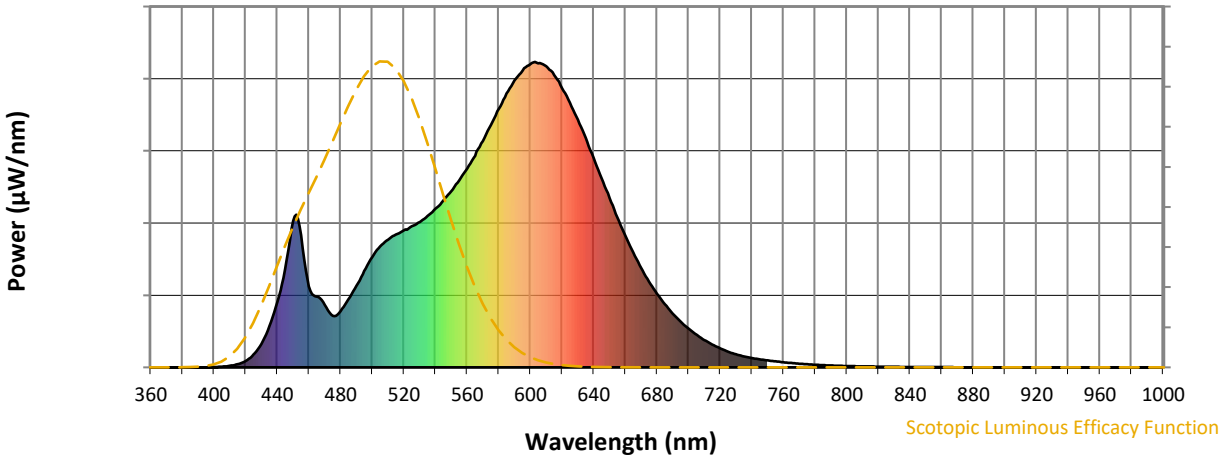
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.34**

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			

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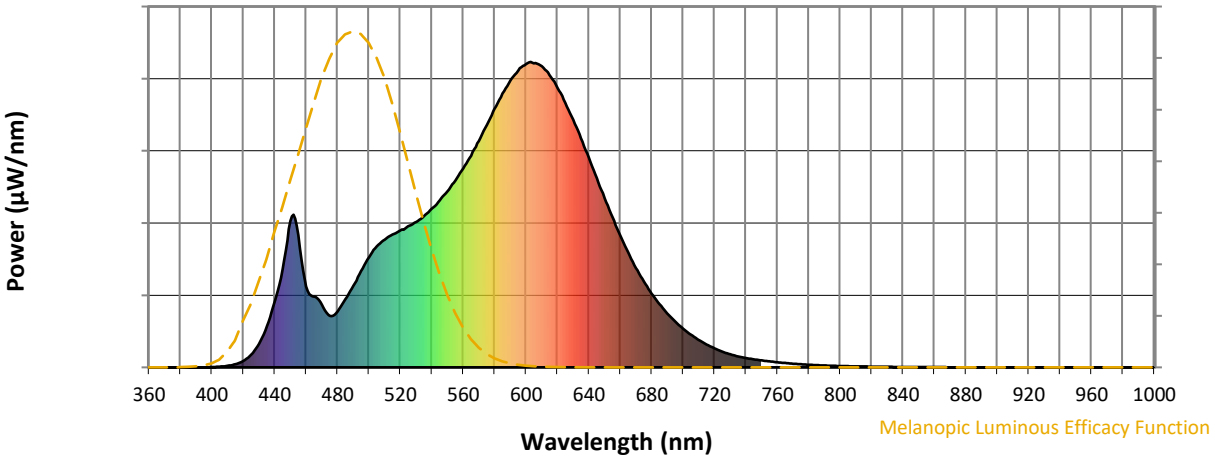
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.58**

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			

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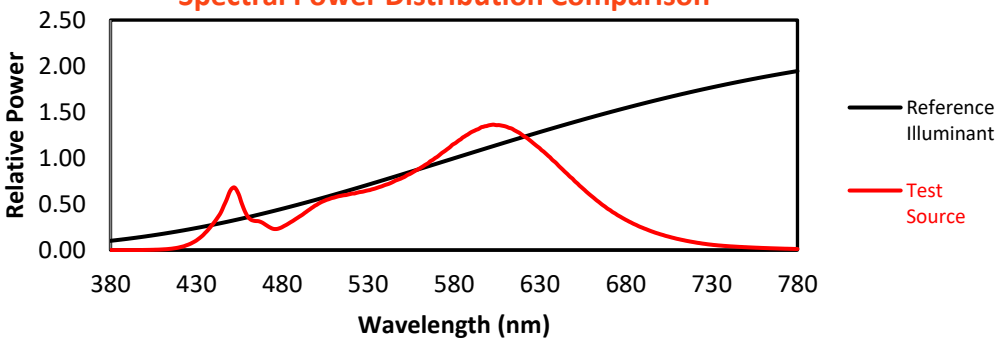
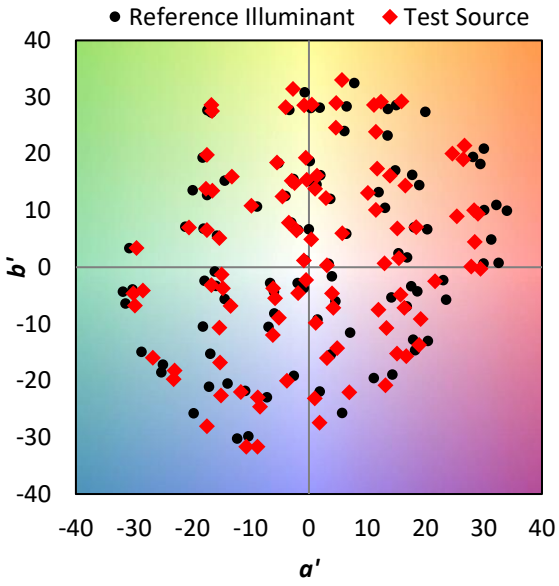
Summary

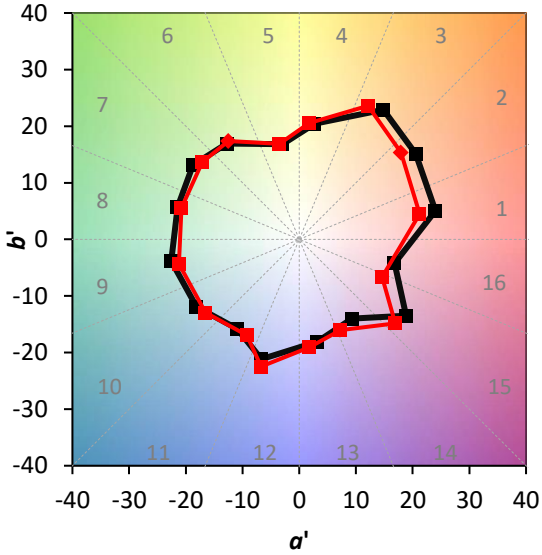
R_f = 86.1
R_g = 94.9
CIE R_a = 82.9
R_9 = 3.9

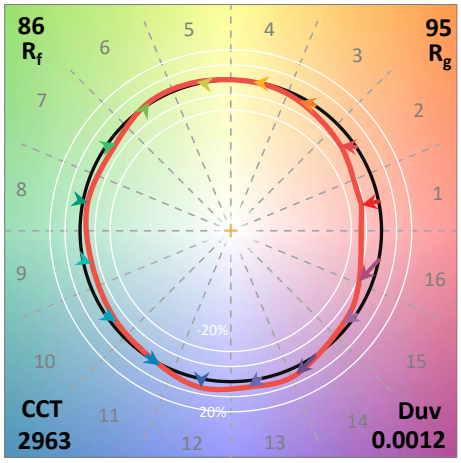
Spectral Power Distribution Comparison

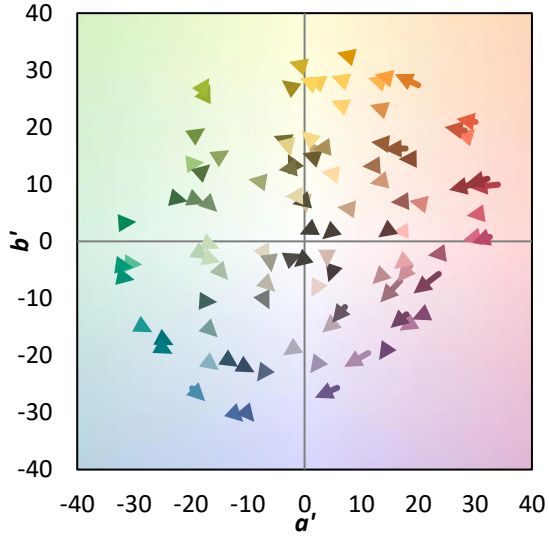


Color Vector Graphics









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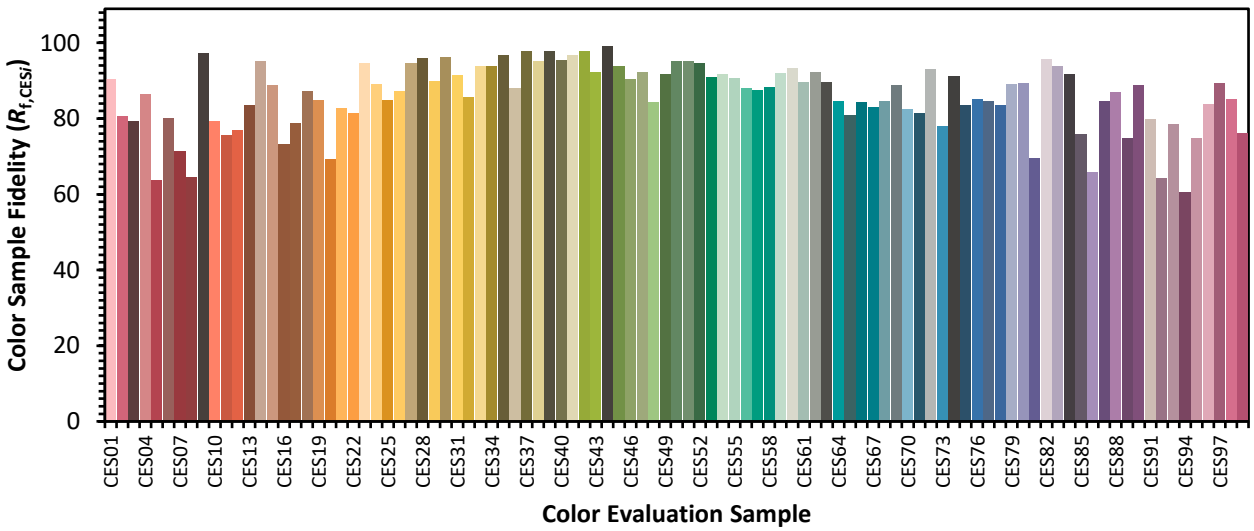
Individual Sample Fidelity Index ($R_{f,i}$)

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	



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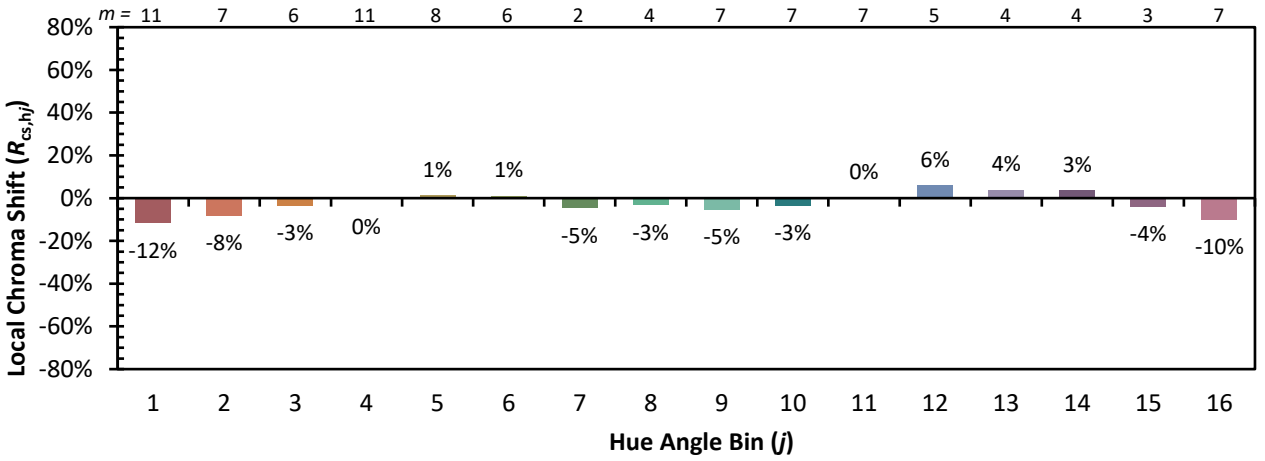
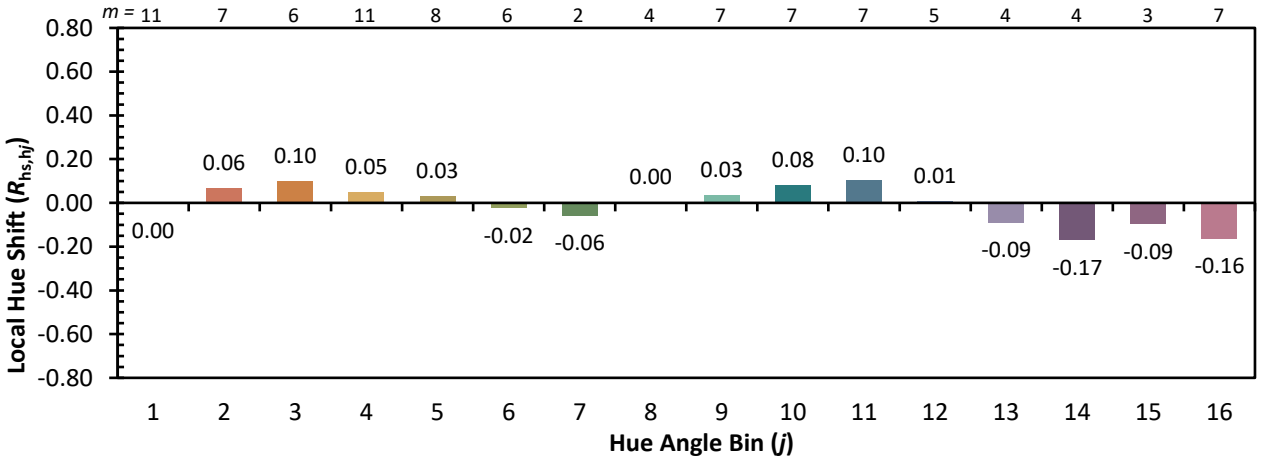
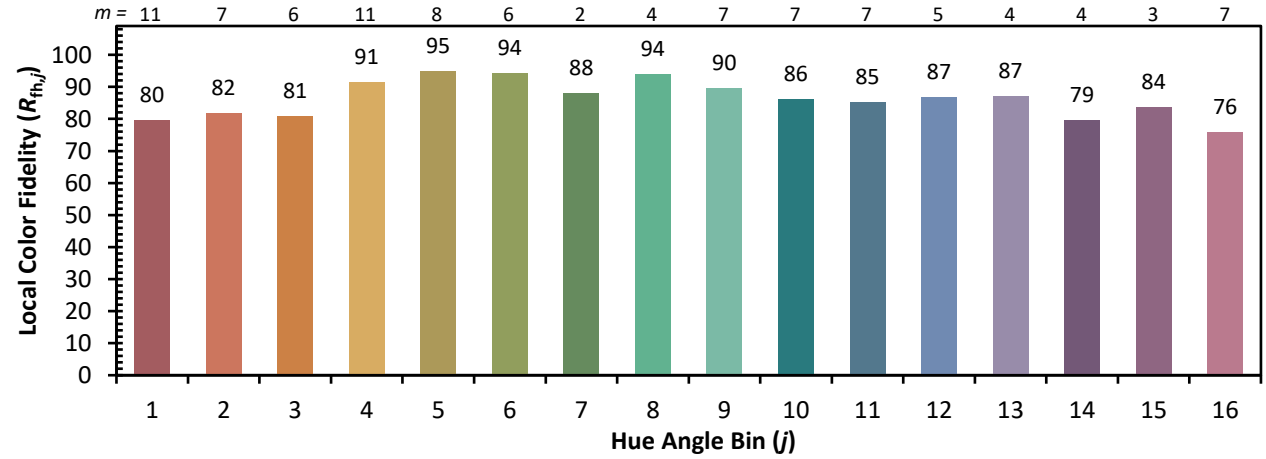
Color Rendition by Hue-Angle Bin







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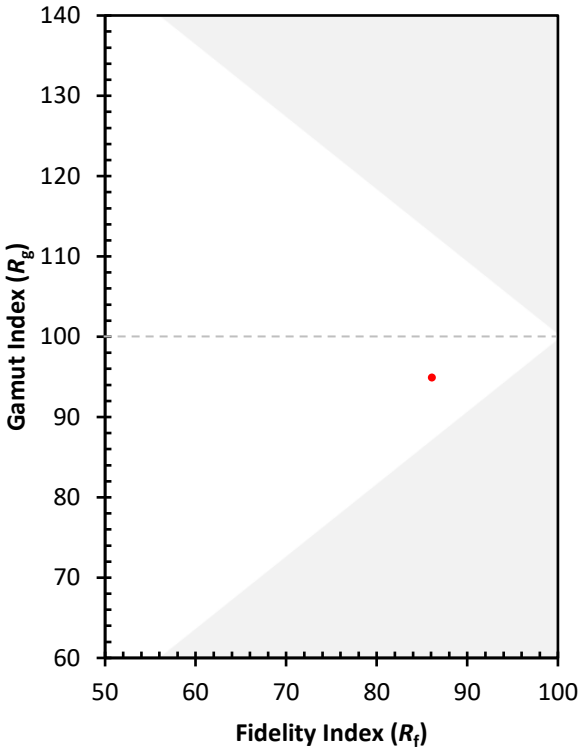
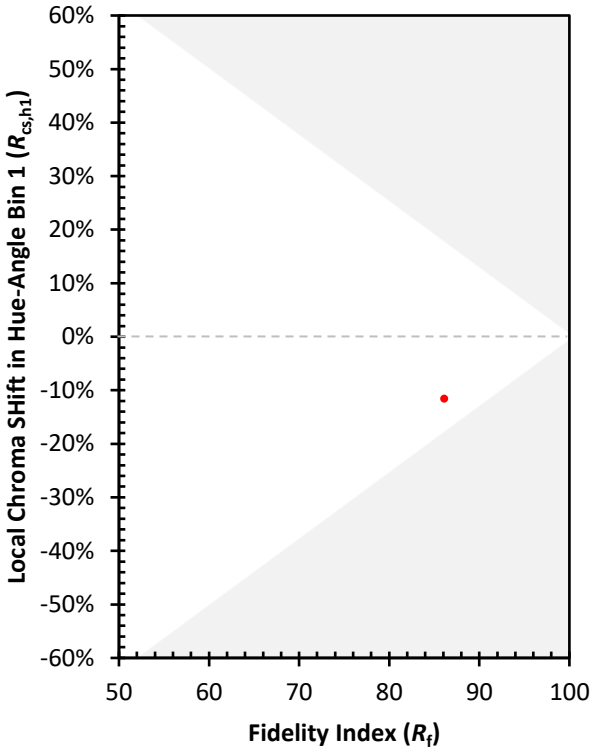
Measure Comparisons





(END OF REPORT)