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: P833700

Luminaire Tested: **TTN-D2-830-U-WQ-UPL3**

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:	P833700
	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-WQ-UPL3
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	3000K, 80 CRI LEDS AND WIDE DISTRIBUTION
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	5477.7 lumens
Efficiency:	N/A
Efficacy:	110.7 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification:	Type V - Short
BUG Rating:	B2 - U4 - G2

Input Watts (W):	49.5
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: P833700
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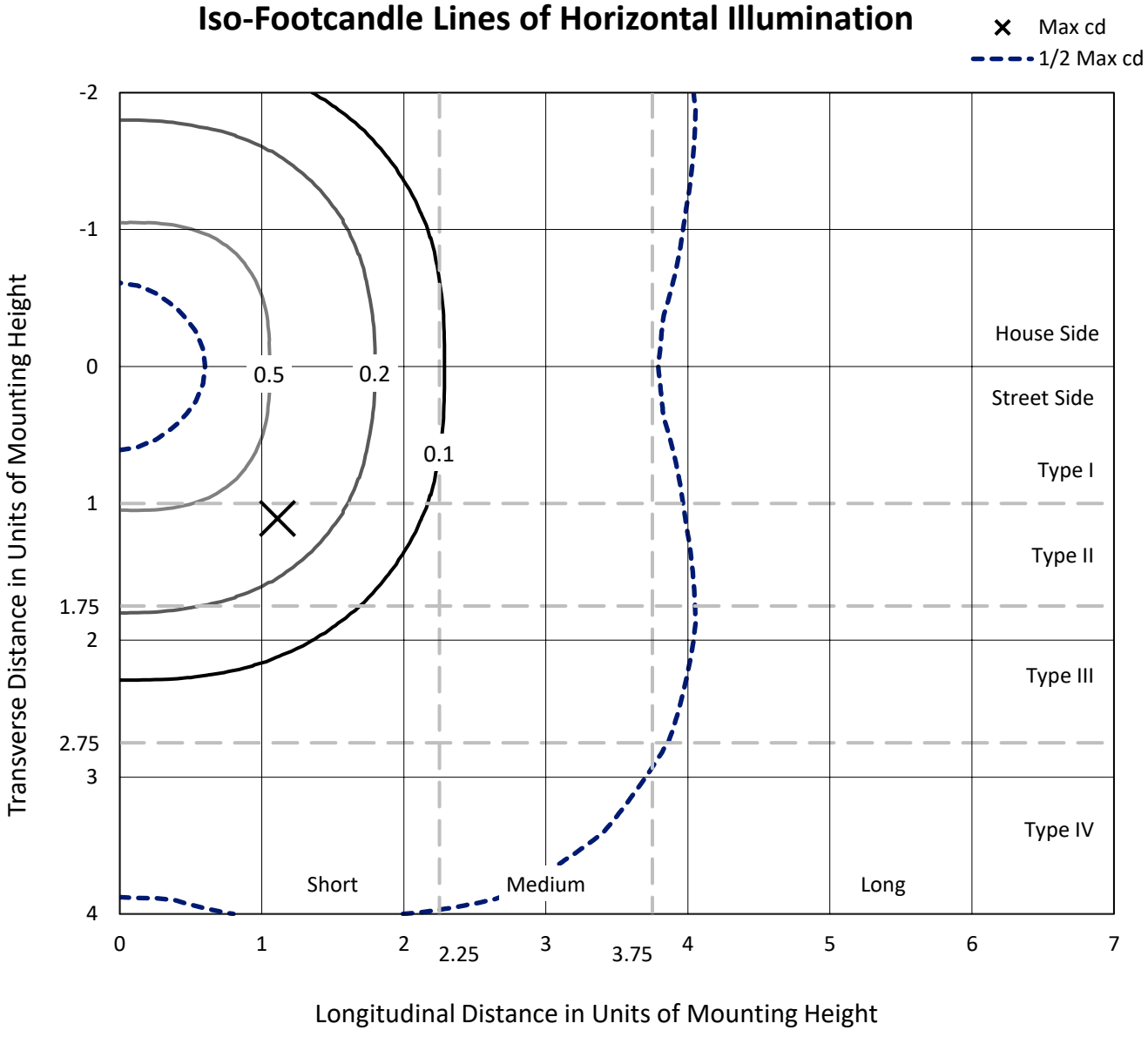
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc
Type V - Short - N/A

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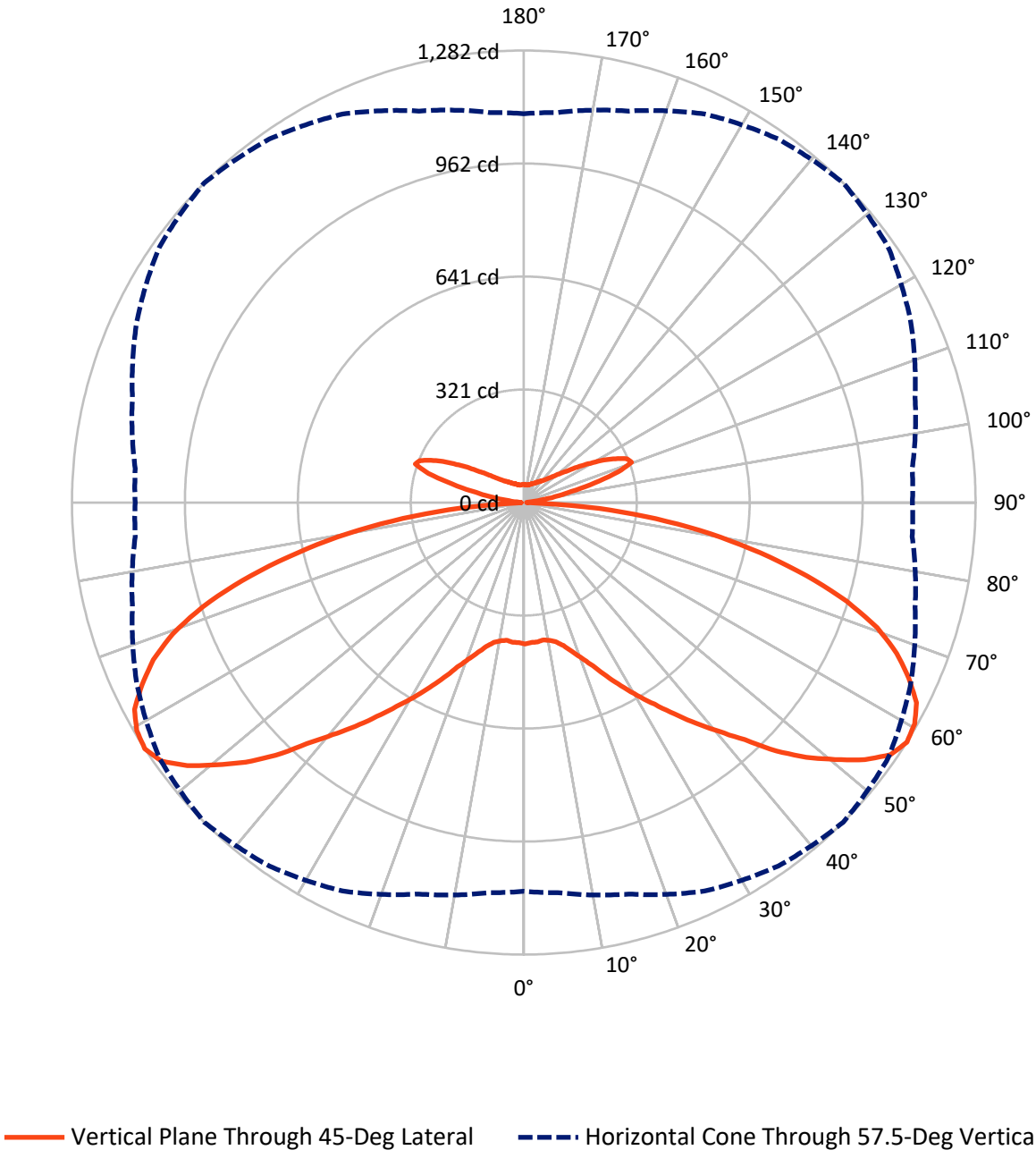
Luminous Intensity Polar Plot



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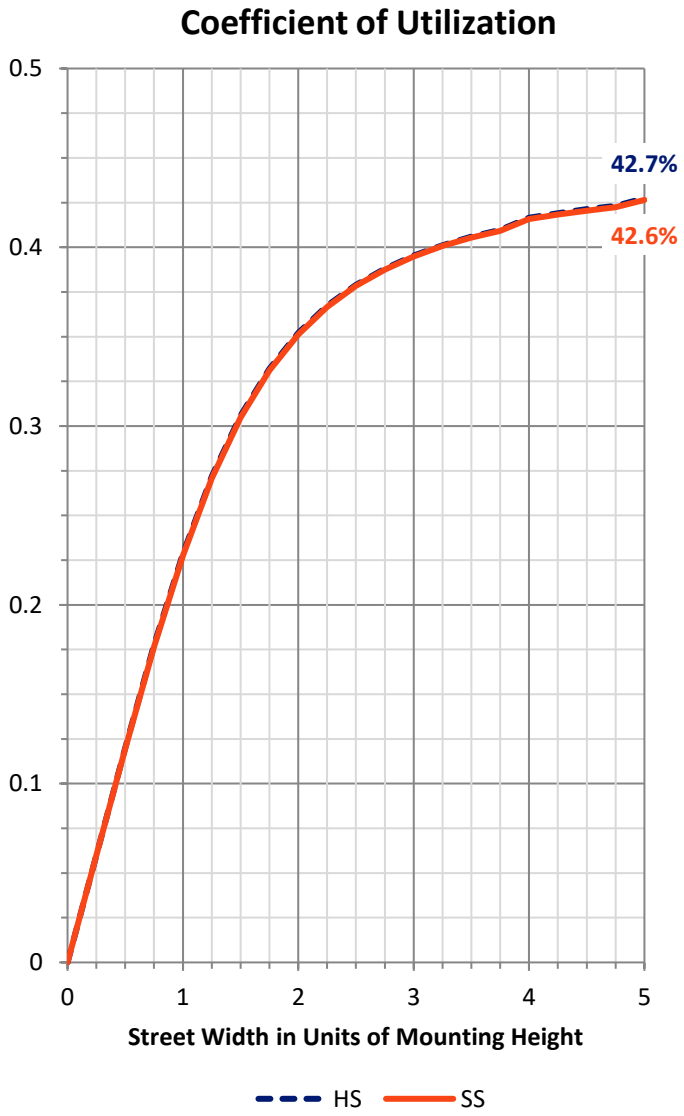
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2368.5	370.3	2738.9
	% Fixture	43.2	6.8	50.0
Street Side	Lumens	2368.5	370.3	2738.9
	% Fixture	43.2	6.8	50.0
Total	Lumens	4737.0	740.7	5477.7
	% Fixture	86.5	13.5	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	0.7
10°-20°	120.4	2.2
20°-30°	252.6	4.6
30°-40°	458.4	8.4
40°-50°	747.2	13.6
50°-60°	1045.9	19.1
60°-70°	1091.8	19.9
70°-80°	780.1	14.2
80°-90°	202.8	3.7
90°-100°	16.5	0.3
100°-110°	168.0	3.1
110°-120°	245.6	4.5
120°-130°	142.5	2.6
130°-140°	75.5	1.4
140°-150°	44.9	0.8
150°-160°	27.6	0.5
160°-170°	15.1	0.3
170°-180°	4.9	0.1
0°-90°	4737.0	86.5
0°-180°	5477.7	100.0



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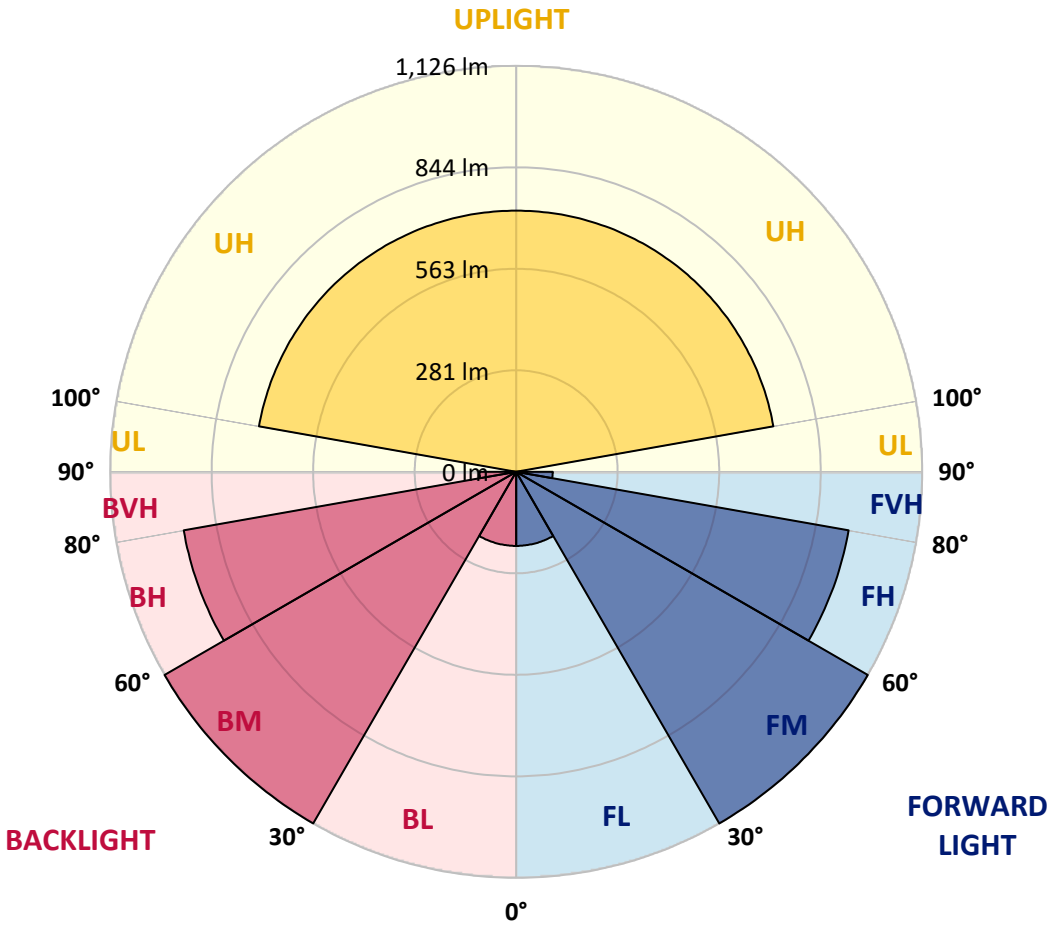
REPORT NUMBER: P833700
CATALOG NUMBER: TTN-D2-830-U-WQ-UPL3

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	205.4	3.7			
FM	(30°-60°)	1125.7	20.6			
FH	(60°-80°)	936.0	17.1			G1/1800
FVH	(80°-90°)	101.4	1.9			G2/225
BL	(0°-30°)	205.4	3.7	B1/500		
BM	(30°-60°)	1125.7	20.6	B2/2500		
BH	(60°-80°)	936.0	17.1	B2/1000		G1/1800
BVH	(80°-90°)	101.4	1.9			G2/225
UL	(90°-100°)	16.5	0.3		U2/50	
UH	(100°-180°)	724.2	13.2		U4/1000	

BUG Rating: B2-U4-G2
Type V Short



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REPORT NUMBER: P833700
CATALOG NUMBER: TTN-D2-830-U-WQ-UPL3

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	401.4	401.4	401.4	401.4	401.4	*401.4*	401.4	401.4	401.4	401.4	401.4
2.5°	397.5	397.5	397.5	397.5	397.5	*397.5*	397.5	397.5	397.5	397.5	397.5
5°	397.5	397.5	397.5	397.5	397.5	*397.5*	397.5	397.5	397.5	397.5	397.5
7.5°	389.7	389.7	393.6	393.6	393.6	*393.6*	393.6	393.6	393.6	393.6	393.6
10°	389.7	389.7	393.6	393.6	397.5	*397.5*	397.5	393.6	393.6	389.7	389.7
12.5°	397.5	397.5	397.5	401.4	405.3	*405.3*	405.3	401.4	401.4	397.5	397.5
15°	409.2	413.1	413.1	417.0	420.9	*420.9*	420.9	417.0	417.0	413.1	413.1
17.5°	432.6	432.6	432.6	436.5	440.4	*444.3*	444.3	436.5	436.5	432.6	436.5
20°	456.0	459.9	459.9	463.8	467.7	*471.6*	467.7	463.8	459.9	459.9	459.9
22.5°	491.1	491.1	495.0	495.0	502.8	*502.8*	502.8	495.0	495.0	495.0	495.0
25°	530.1	530.1	534.0	537.9	545.6	*545.6*	541.8	534.0	534.0	534.0	537.9
27.5°	576.8	576.8	580.7	580.7	588.5	*588.5*	584.6	580.7	580.7	580.7	584.6
30°	619.7	619.7	627.5	631.4	635.3	*635.3*	635.3	627.5	627.5	623.6	623.6
32.5°	658.7	662.6	666.5	678.2	686.0	*682.1*	686.0	678.2	670.4	666.5	666.5
35°	701.5	705.4	713.2	724.9	736.6	*736.6*	736.6	724.9	717.1	709.3	713.2
37.5°	752.2	752.2	763.9	775.6	791.2	*795.1*	791.2	779.5	767.8	760.0	760.0
40°	806.8	806.8	818.5	830.2	849.7	*853.5*	849.7	834.1	818.5	814.6	814.6
42.5°	861.3	861.3	876.9	888.6	912.0	*919.8*	912.0	892.5	876.9	865.2	869.1
45°	919.8	923.7	943.2	966.6	993.9	*1005.6*	993.9	970.5	947.1	923.7	923.7
47.5°	986.1	986.1	1009.4	1036.7	1067.9	*1079.6*	1064.0	1040.6	1009.4	990.0	990.0
50°	1028.9	1032.8	1064.0	1099.1	1138.1	*1145.9*	1134.2	1099.1	1064.0	1036.7	1032.8
52.5°	1071.8	1075.7	1110.8	1161.5	1200.4	*1212.1*	1196.5	1161.5	1110.8	1075.7	1075.7
55°	1099.1	1106.9	1145.9	1200.4	1243.3	*1262.8*	1239.4	1200.4	1142.0	1103.0	1099.1
57.5°	*1103.0*	*1110.8*	*1149.8*	*1216.0*	*1258.9*	*1282.3*	*1262.8*	*1212.1*	*1149.8*	*1106.9*	*1103.0*
60°	1095.2	1099.1	1138.1	1208.2	1258.9	*1274.5*	1258.9	1204.3	1134.2	1099.1	1091.3
62.5°	1075.7	1083.5	1122.5	1180.9	1239.4	*1251.1*	1235.5	1177.0	1118.6	1075.7	1067.9
65°	1013.3	1021.1	1079.6	1138.1	1188.7	*1200.4*	1188.7	1138.1	1075.7	1013.3	1005.6
67.5°	943.2	947.1	1005.6	1075.7	1122.5	*1142.0*	1122.5	1079.6	1001.7	943.2	935.4
70°	869.1	873.0	919.8	993.9	1040.6	*1064.0*	1044.5	997.8	915.9	865.2	861.3
72.5°	783.4	783.4	830.2	888.6	935.4	*958.8*	943.2	884.7	822.4	771.7	763.9
75°	666.5	670.4	721.0	763.9	814.6	*830.2*	814.6	767.8	709.3	658.7	650.9
77.5°	545.6	549.5	592.4	627.5	674.3	*686.0*	674.3	635.3	580.7	537.9	534.0
80°	413.1	417.0	452.1	483.3	522.3	*537.9*	526.2	487.2	444.3	405.3	393.6
82.5°	268.9	272.8	307.9	331.3	366.4	*378.1*	370.3	335.2	300.1	261.1	257.2
85°	120.8	124.7	155.9	175.4	202.7	*214.4*	206.6	175.4	148.1	113.0	105.2
87.5°	11.7	11.7	11.7	11.7	11.7	*15.6*	15.6	11.7	11.7	11.7	11.7
90°	6.3	6.3	7.6	7.6	7.6	*7.6*	7.6	7.6	7.6	6.3	6.3
92.5°	6.3	6.3	6.3	8.9	10.1	*8.9*	10.1	7.6	7.6	6.3	6.3
95°	7.6	7.6	8.9	11.4	13.9	*15.2*	15.2	8.9	8.9	7.6	7.6
97.5°	10.1	11.4	11.4	13.9	22.8	*41.8*	25.3	12.7	12.7	11.4	10.1
100°	16.5	17.7	17.7	31.7	67.2	*90.0*	64.6	32.9	24.1	17.7	17.7
102.5°	53.2	55.8	68.4	102.6	152.1	*138.1*	116.6	110.2	76.0	60.8	58.3
105°	135.6	134.3	144.5	171.1	212.9	*209.1*	192.6	174.9	150.8	139.4	139.4
107.5°	178.7	178.7	187.5	210.4	242.0	*282.6*	286.4	226.8	198.9	186.3	185.0
110°	201.5	201.5	209.1	228.1	269.9	*326.9*	324.4	280.0	245.8	229.4	226.8

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Scaled Data Report

REPORT NUMBER: P833700
CATALOG NUMBER: TTN-D2-830-U-WQ-UPL3

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	206.5	207.8	218.0	247.1	292.7	*318.1*	306.7	288.9	273.7	261.0	258.5
115°	214.2	214.2	225.6	253.4	278.8	*288.9*	276.2	262.3	252.2	247.1	249.6
117.5°	211.6	215.4	218.0	233.2	249.6	*257.2*	250.9	231.9	224.3	221.8	218.0
120°	196.4	196.4	198.9	206.5	215.4	*219.2*	216.7	204.0	197.7	196.4	193.9
122.5°	174.9	176.1	174.9	178.7	185.0	*188.8*	186.3	176.1	173.6	173.6	171.1
125°	153.3	153.3	152.1	154.6	158.4	*157.1*	158.4	153.3	152.1	152.1	150.8
127.5°	138.1	136.9	134.3	135.6	136.9	*136.9*	138.1	133.1	134.3	135.6	134.3
130°	122.9	122.9	120.4	120.4	120.4	*117.8*	120.4	117.8	119.1	120.4	121.6
132.5°	109.0	109.0	105.2	103.9	103.9	*103.9*	105.2	103.9	106.4	109.0	109.0
135°	97.6	97.6	93.8	95.0	95.0	*93.8*	95.0	93.8	96.3	97.6	97.6
137.5°	88.7	88.7	86.2	86.2	86.2	*84.9*	86.2	86.2	87.4	90.0	91.2
140°	81.1	81.1	79.8	79.8	78.6	*79.8*	79.8	79.8	81.1	82.4	82.4
142.5°	77.3	76.0	74.8	73.5	74.8	*74.8*	74.8	73.5	74.8	77.3	77.3
145°	71.0	71.0	69.7	69.7	69.7	*71.0*	69.7	69.7	71.0	71.0	72.2
147.5°	67.2	67.2	65.9	67.2	67.2	*67.2*	67.2	65.9	67.2	67.2	68.4
150°	65.9	64.6	63.4	64.6	64.6	*63.4*	63.4	63.4	63.4	64.6	64.6
152.5°	62.1	62.1	60.8	62.1	60.8	*60.8*	60.8	60.8	60.8	62.1	63.4
155°	59.6	59.6	58.3	59.6	59.6	*59.6*	59.6	59.6	59.6	59.6	59.6
157.5°	57.0	58.3	57.0	57.0	57.0	*57.0*	57.0	57.0	57.0	58.3	58.3
160°	55.8	55.8	55.8	55.8	54.5	*54.5*	54.5	55.8	55.8	55.8	57.0
162.5°	54.5	54.5	54.5	54.5	53.2	*53.2*	53.2	53.2	54.5	54.5	55.8
165°	54.5	53.2	53.2	53.2	52.0	*52.0*	52.0	52.0	53.2	54.5	53.2
167.5°	52.0	52.0	52.0	52.0	52.0	*50.7*	50.7	52.0	52.0	52.0	53.2
170°	52.0	52.0	50.7	50.7	50.7	*50.7*	50.7	50.7	50.7	50.7	52.0
172.5°	52.0	52.0	52.0	52.0	50.7	*50.7*	50.7	50.7	50.7	52.0	52.0
175°	52.0	52.0	52.0	52.0	50.7	*50.7*	50.7	52.0	52.0	52.0	50.7
177.5°	52.0	52.0	52.0	52.0	50.7	*52.0*	52.0	52.0	52.0	52.0	52.0
180°	52.0	52.0	52.0	52.0	52.0	*52.0*	52.0	52.0	52.0	52.0	52.0

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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

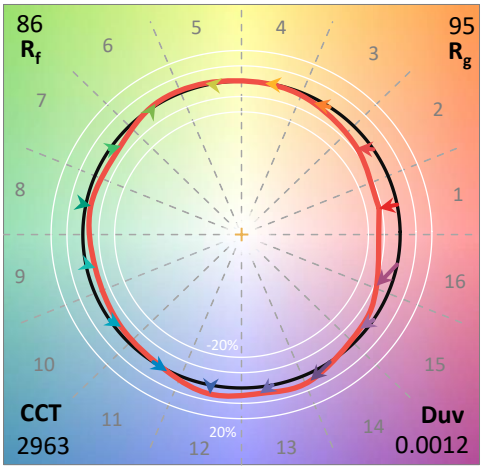
Test Information

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

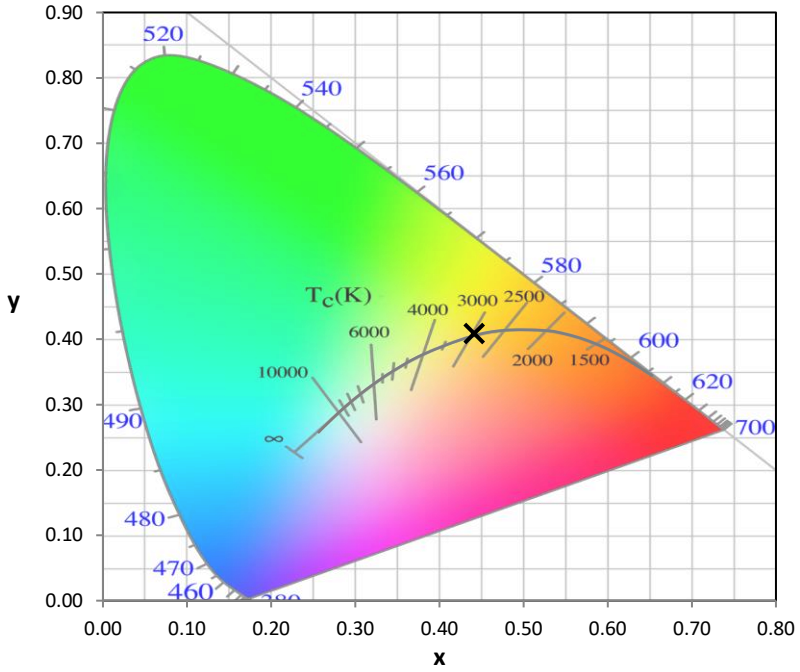
Stabilization Time:	37M
Operation Time:	1H 37M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2411-284-4

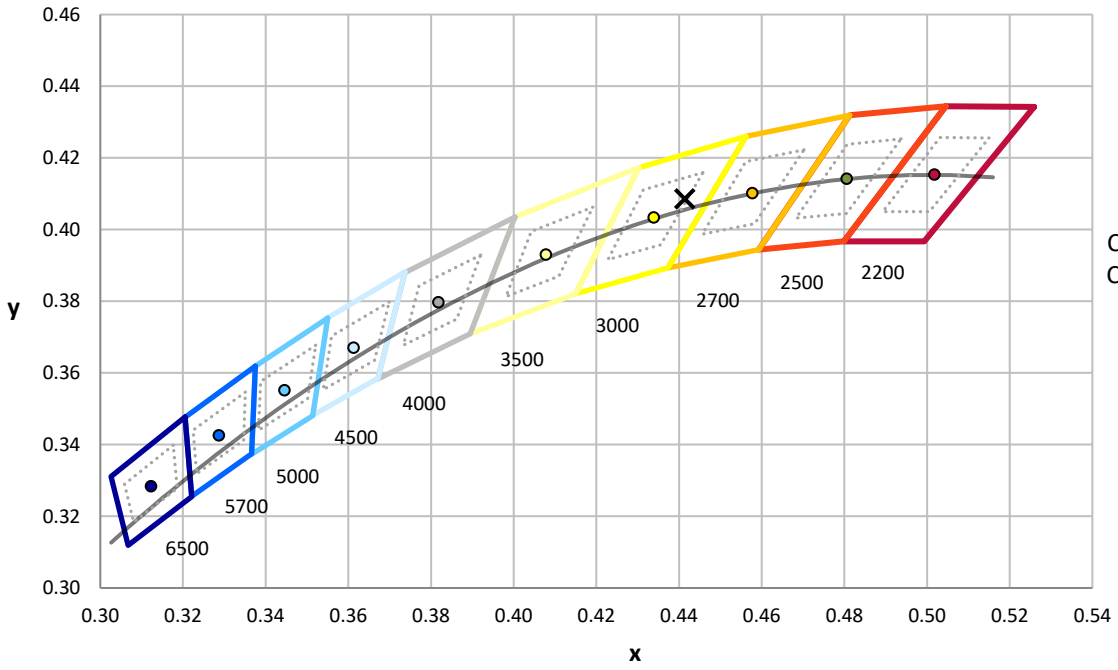
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

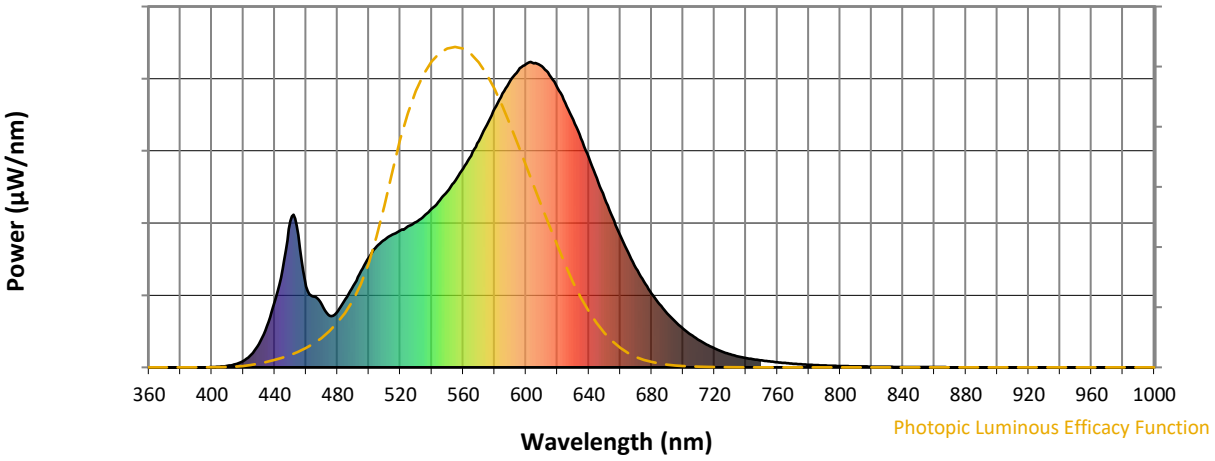


CCT = 2963K
CIE x = 0.4414
CIE y = 0.4086
Duv = 0.0012

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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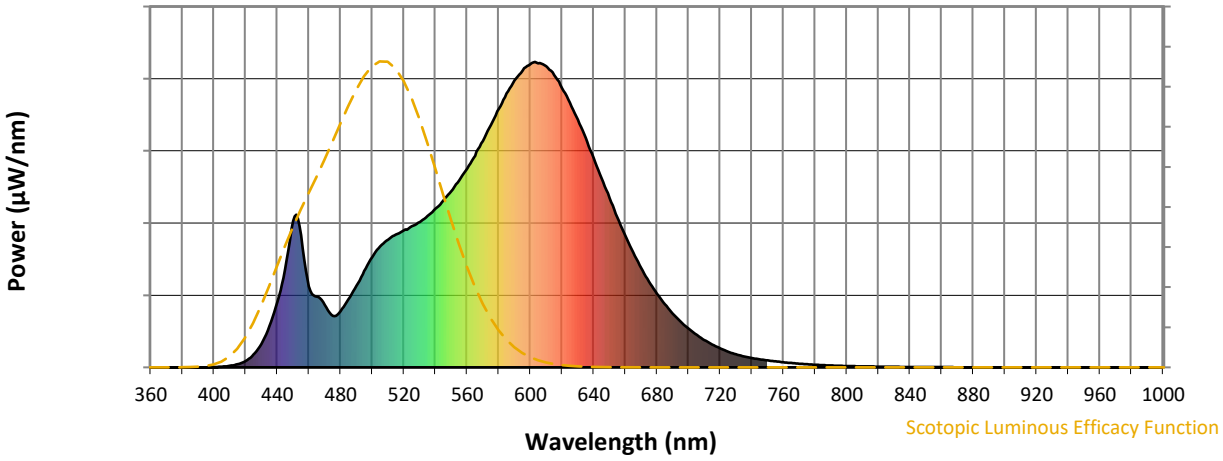
Scotopic Flux vs. Wavelength



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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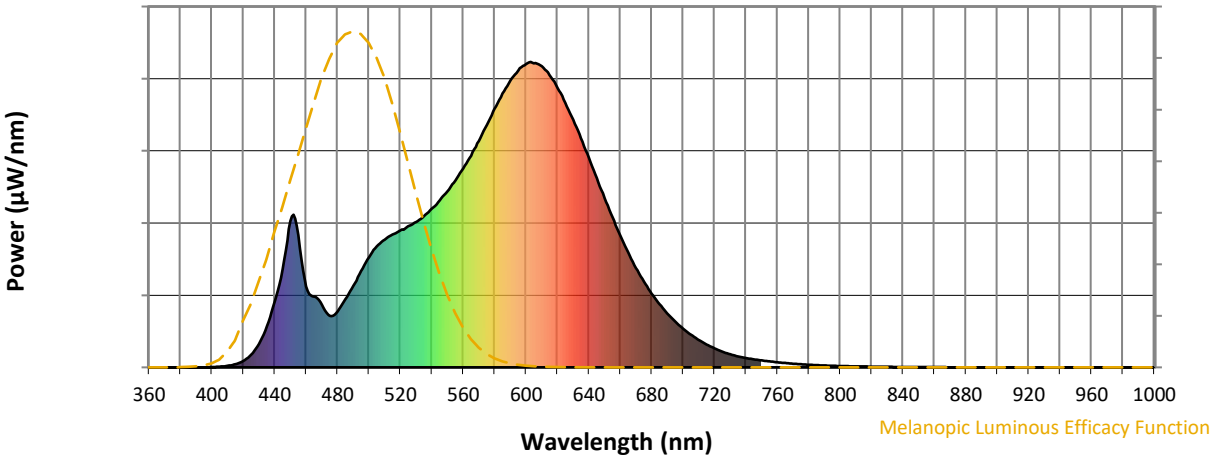
Melanopic Flux vs. Wavelength



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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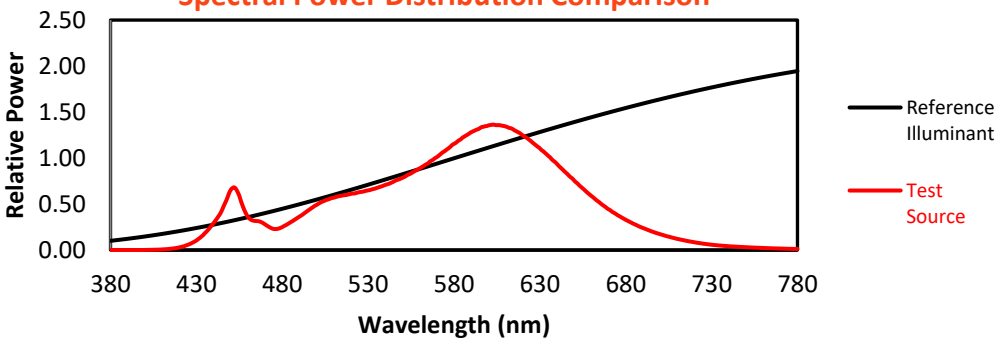
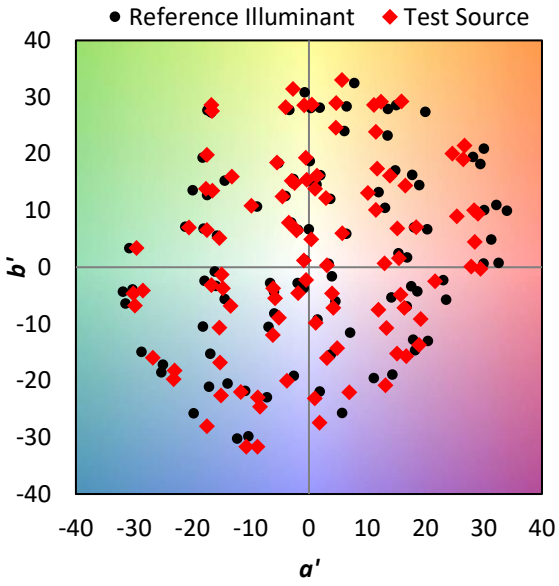
Summary

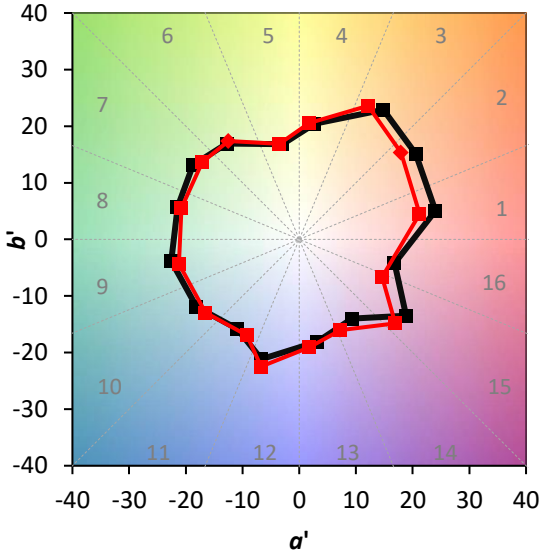
R_f = 86.1
R_g = 94.9
CIE R_a = 82.9
R_9 = 3.9

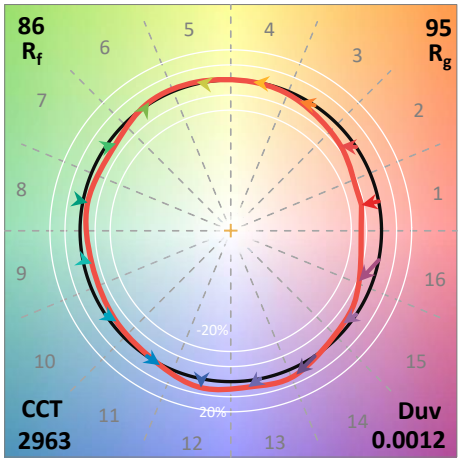
Spectral Power Distribution Comparison

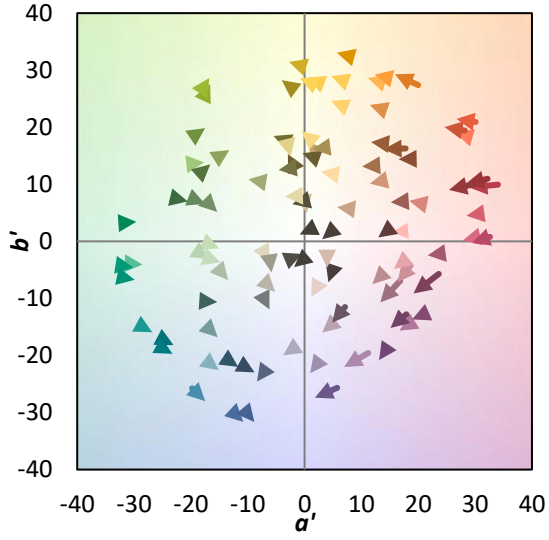


Color Vector Graphics









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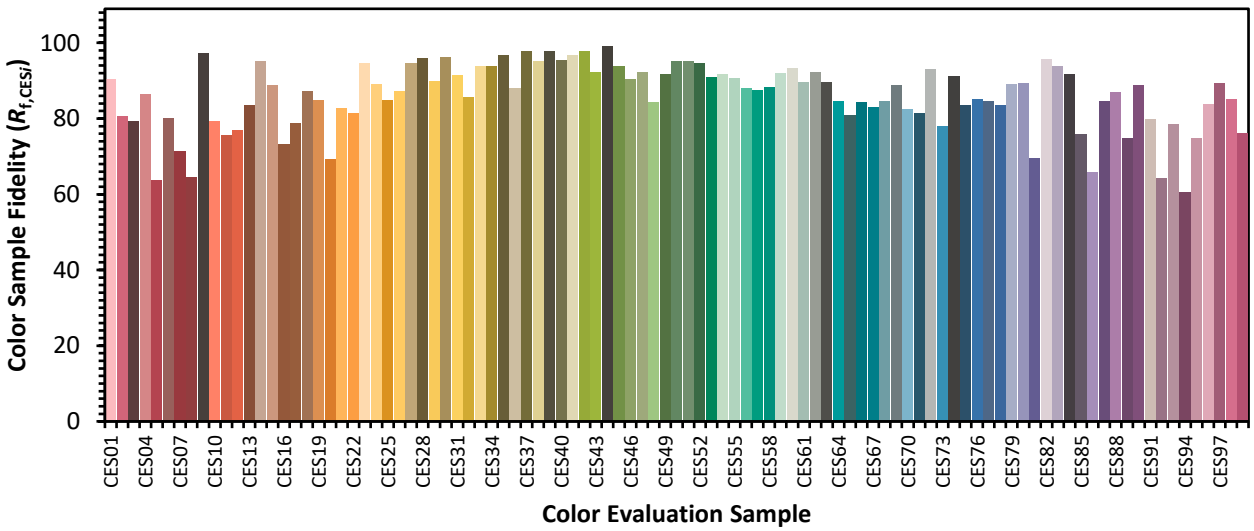
Individual Sample Fidelity Index ($R_{f,i}$)

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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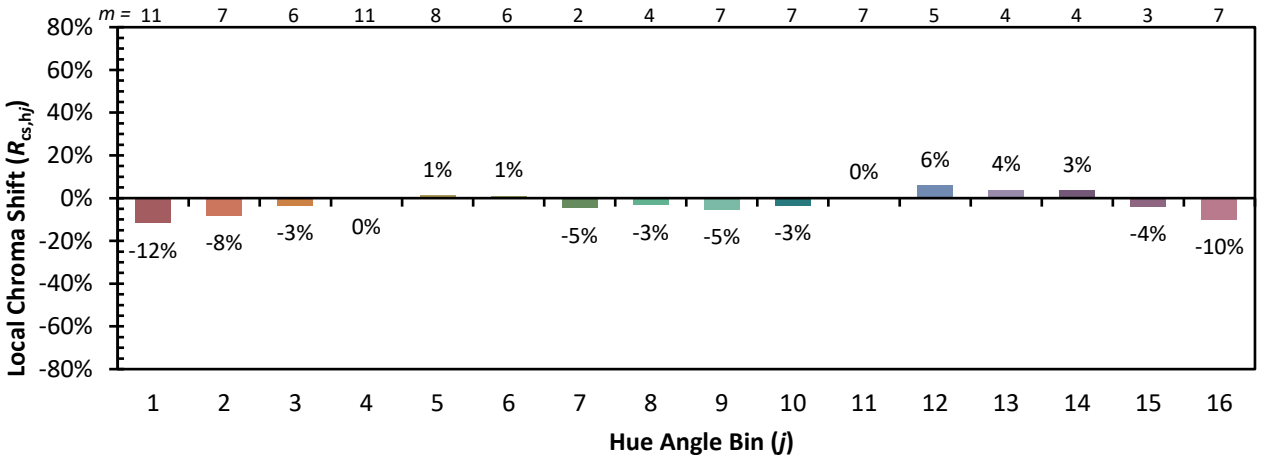
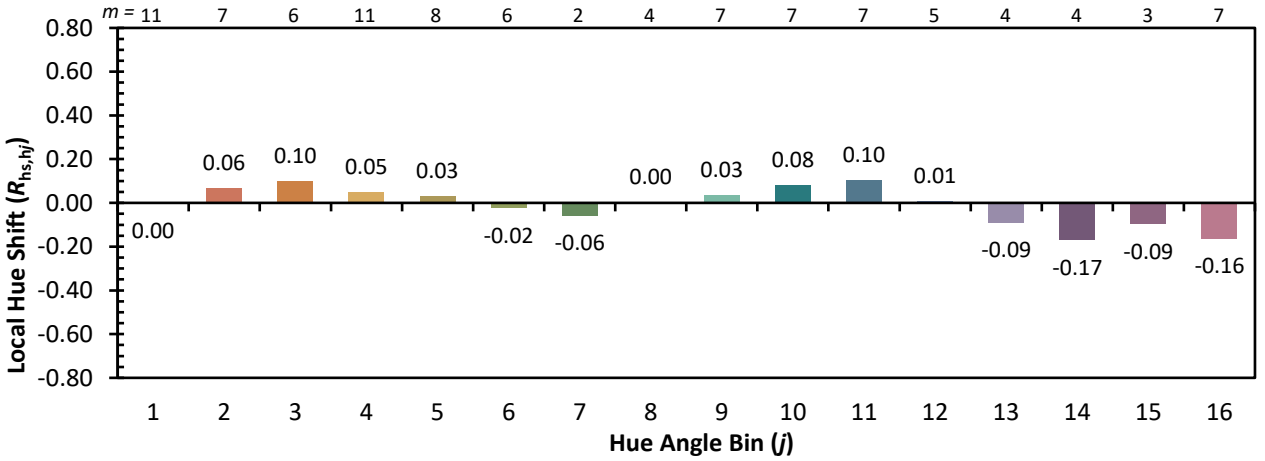
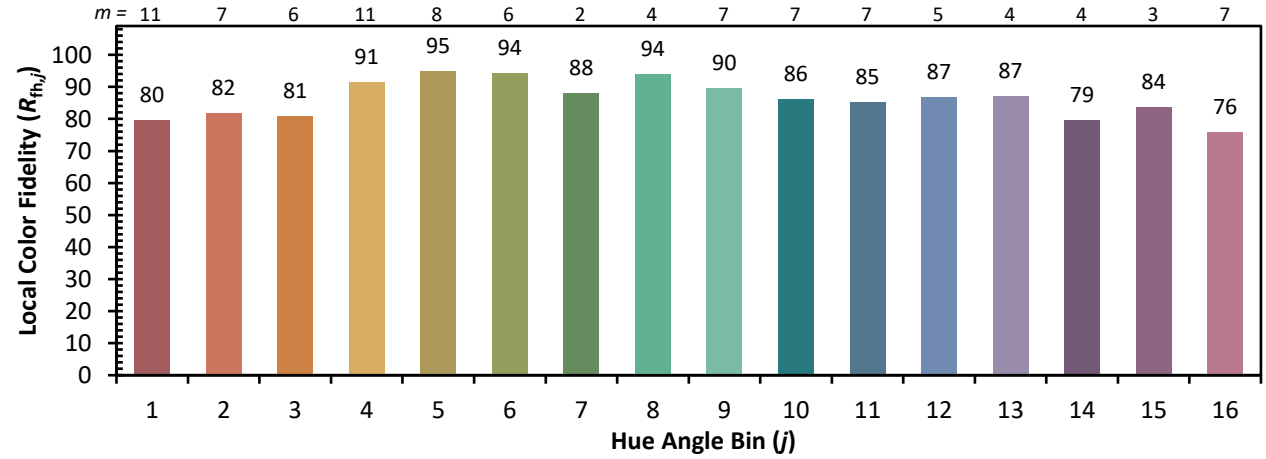
Color Rendition by Hue-Angle Bin







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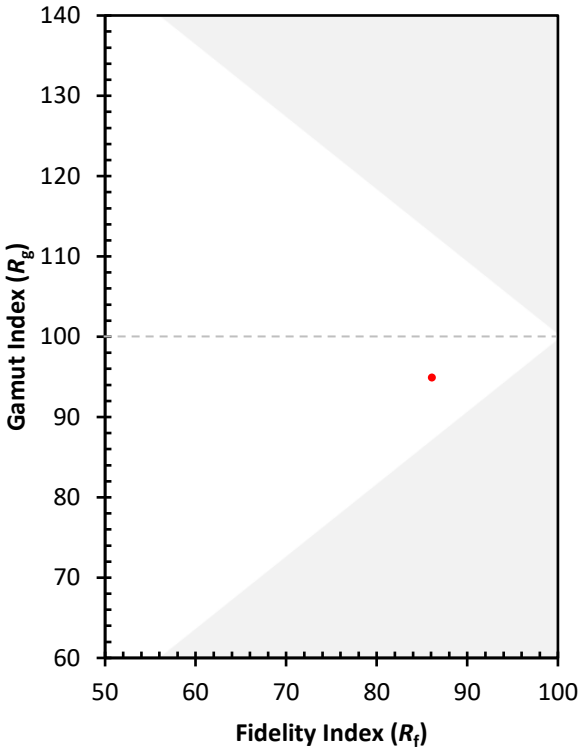
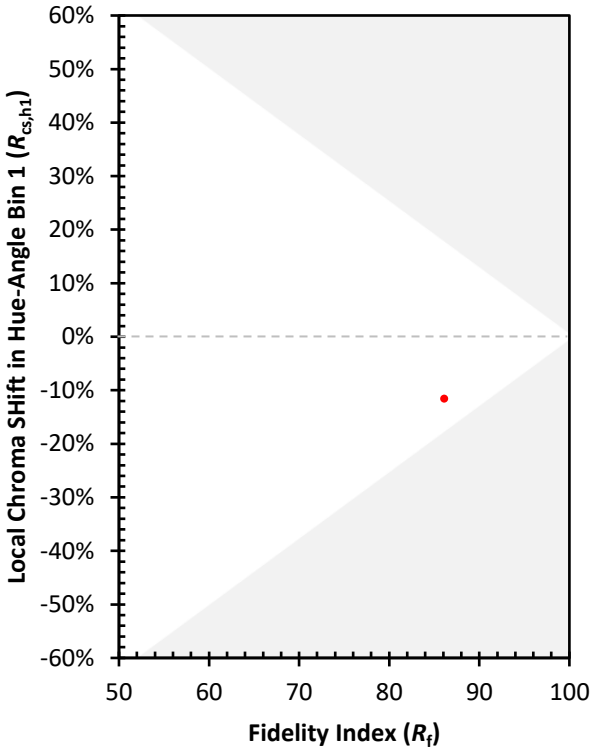
Measure Comparisons





(END OF REPORT)