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: P543095

Luminaire Tested: **TT-D10-735-U-WQ**

Issue Date: 6/22/2021

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:	P543095
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2012-100-4)
Test Lab:	INNOVATION CENTER
Issue Date:	6/22/2021
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D10-735-U-WQ
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3500K, 70 CRI LEDS AND WIDE DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	21936 lumens
Efficiency:	N/A
Efficacy:	113.2 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B4 - U0 - G4

Input Watts (W):	193.8
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:	28.75 FT

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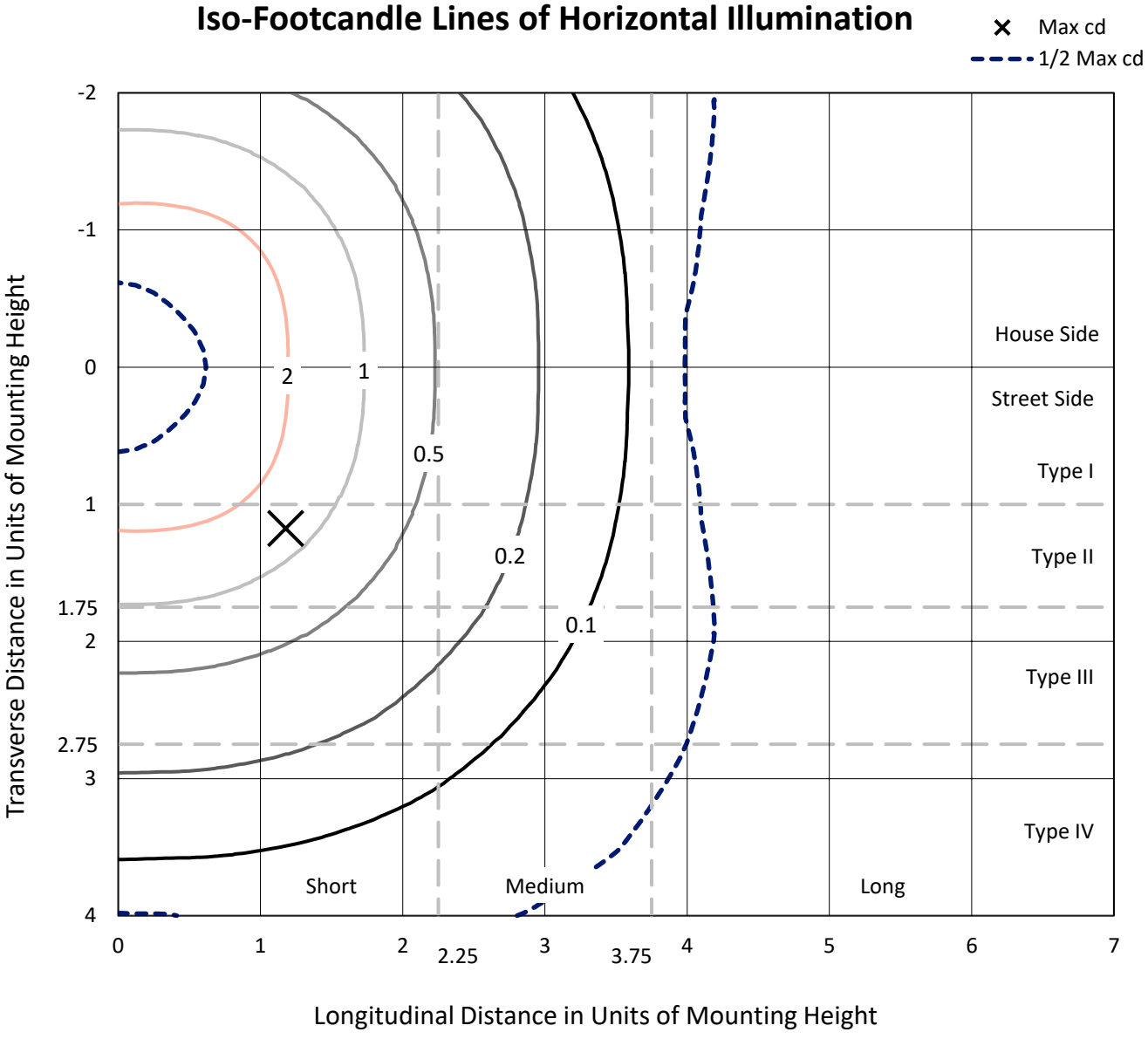
Scaled Data Report

REPORT NUMBER: P543095
CATALOG NUMBER: TT-D10-735-U-WQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 3 fc
Type V - Short - N/A

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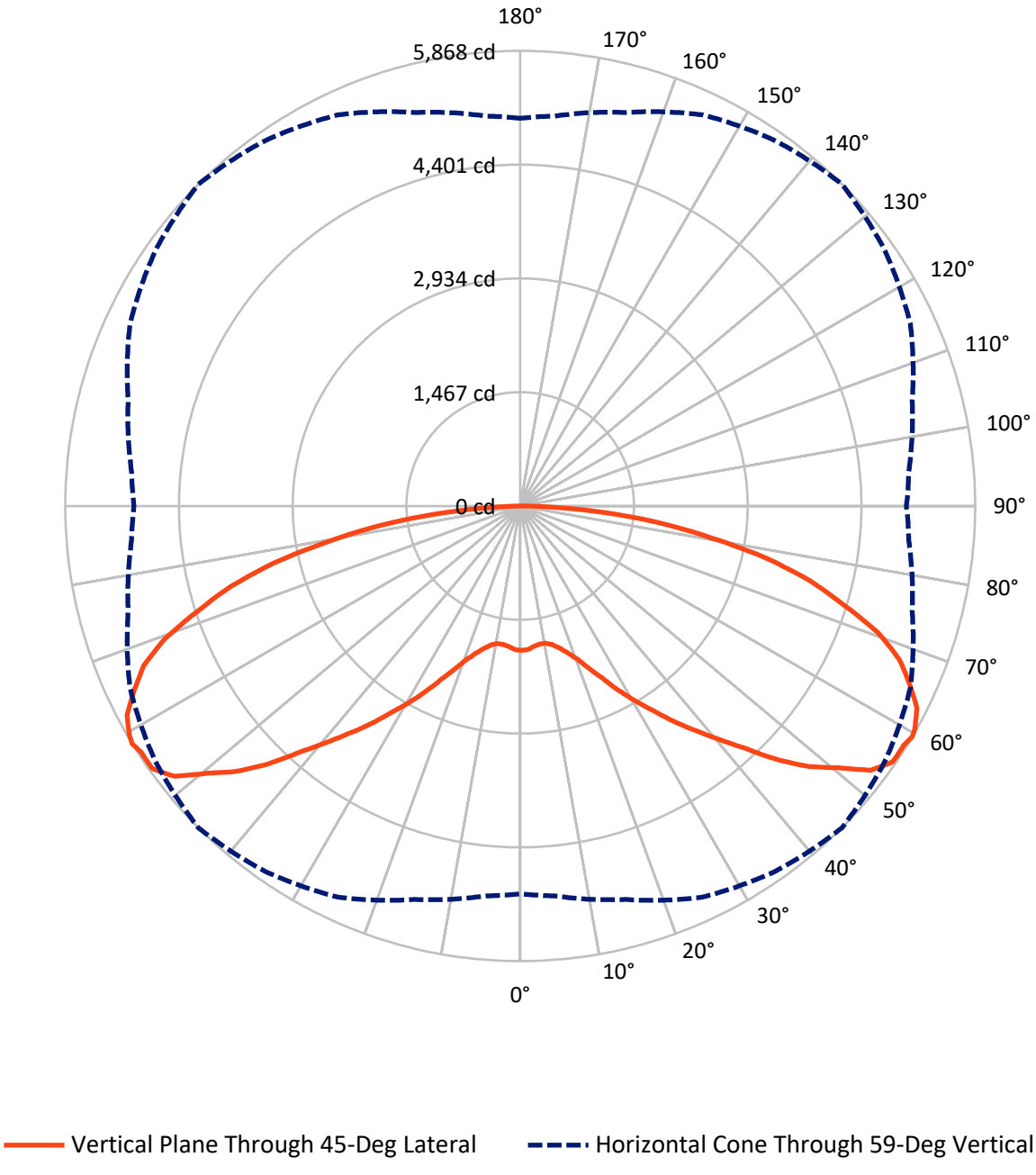
Luminous Intensity Polar Plot



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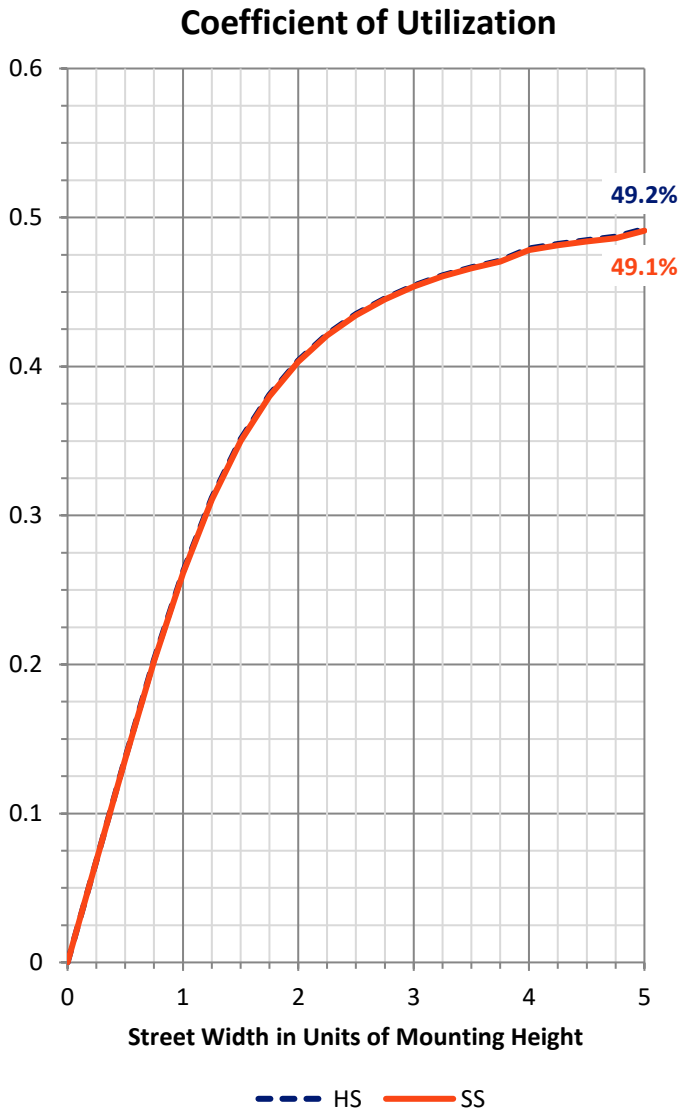
REPORT NUMBER: P543095
CATALOG NUMBER: TT-D10-735-U-WQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10968.0	0.0	10968.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10968.0	0.0	10968.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	21936.0	0.0	21936.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.4	0.8
10°-20°	544.6	2.5
20°-30°	1138.2	5.2
30°-40°	2093.9	9.5
40°-50°	3445.4	15.7
50°-60°	4806.5	21.9
60°-70°	5005.7	22.8
70°-80°	3647.9	16.6
80°-90°	1081.4	4.9
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°	21936.0	100.0
0°-180°	21936.0	100.0



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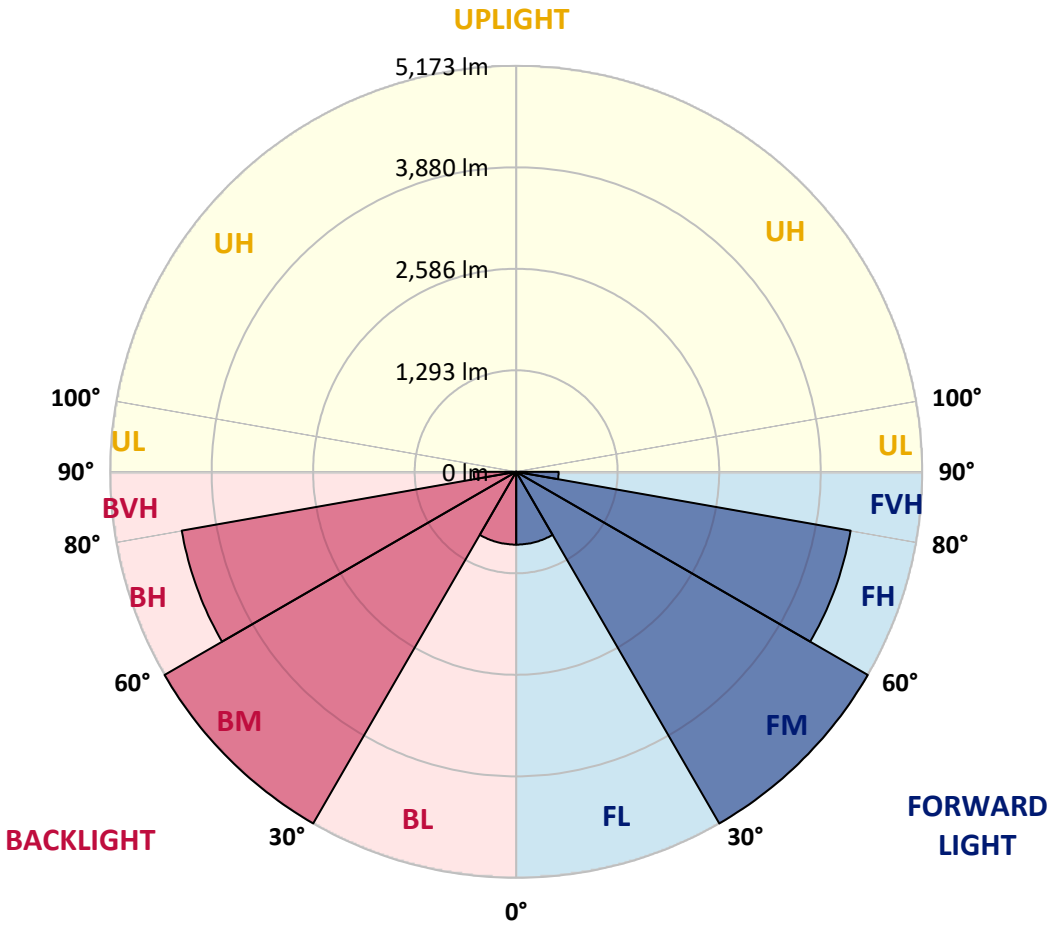
Scaled Data Report

REPORT NUMBER: P543095
CATALOG NUMBER: TT-D10-735-U-WQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	927.6	4.2			
FM	(30°-60°)	5172.9	23.6			
FH	(60°-80°)	4326.8	19.7			G2/5000
FVH	(80°-90°)	540.7	2.5			G4/750
BL	(0°-30°)	927.6	4.2	B2/1000		
BM	(30°-60°)	5172.9	23.6	B4/8500		
BH	(60°-80°)	4326.8	19.7	B4/5000		G2/5000
BVH	(80°-90°)	540.7	2.5			G4/750
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4
Type V Short



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Scaled Data Report

REPORT NUMBER: P543095
CATALOG NUMBER: TT-D10-735-U-WQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1862.0	1862.0	1862.0	1862.0	1862.0	*1862.0*	1862.0	1862.0	1862.0	1862.0	1862.0
2.5°	1852.0	1853.0	1853.0	1854.0	1853.0	*1854.0*	1852.0	1851.0	1850.0	1851.0	1850.0
5°	1809.0	1812.0	1812.0	1815.0	1816.0	*1819.0*	1817.0	1816.0	1813.0	1812.0	1811.0
7.5°	1779.0	1780.0	1783.0	1789.0	1794.0	*1798.0*	1797.0	1793.0	1788.0	1784.0	1783.0
10°	1778.0	1777.0	1780.0	1785.0	1795.0	*1798.0*	1797.0	1790.0	1786.0	1783.0	1783.0
12.5°	1810.0	1809.0	1813.0	1820.0	1833.0	*1833.0*	1835.0	1824.0	1816.0	1814.0	1814.0
15°	1873.0	1870.0	1880.0	1886.0	1901.0	*1901.0*	1902.0	1889.0	1880.0	1877.0	1877.0
17.5°	1958.0	1955.0	1966.0	1976.0	1991.0	*1992.0*	1993.0	1979.0	1967.0	1962.0	1964.0
20°	2068.0	2064.0	2074.0	2088.0	2109.0	*2108.0*	2107.0	2093.0	2078.0	2072.0	2074.0
22.5°	2204.0	2209.0	2224.0	2243.0	2269.0	*2273.0*	2267.0	2248.0	2226.0	2217.0	2218.0
25°	2369.0	2374.0	2392.0	2422.0	2457.1	*2456.1*	2452.0	2424.0	2392.0	2379.0	2382.0
27.5°	2570.1	2573.1	2600.1	2631.1	2679.1	*2684.1*	2675.1	2631.1	2598.1	2572.1	2569.1
30°	2771.1	2775.1	2801.1	2846.1	2898.1	*2911.1*	2886.1	2844.1	2801.1	2773.1	2768.1
32.5°	2990.1	2999.1	3023.1	3067.1	3136.1	*3143.1*	3128.1	3068.1	3019.1	2994.1	2993.1
35°	3206.1	3219.1	3253.1	3314.1	3385.1	*3410.1*	3376.1	3314.1	3256.1	3209.1	3204.1
37.5°	3445.1	3462.1	3498.1	3577.1	3648.1	*3672.1*	3641.1	3572.1	3491.1	3450.1	3446.1
40°	3675.1	3702.1	3769.1	3852.1	3936.1	*3957.1*	3935.1	3843.1	3757.1	3701.1	3665.1
42.5°	3926.1	3943.1	4021.1	4148.1	4232.1	*4279.1*	4227.1	4142.1	4019.1	3939.1	3931.1
45°	4211.1	4264.1	4330.1	4482.1	4621.1	*4673.1*	4618.1	4473.1	4318.1	4254.1	4217.1
47.5°	4477.1	4517.1	4630.1	4803.1	4970.1	*5019.1*	4965.1	4798.1	4613.1	4506.1	4470.1
50°	4697.1	4753.1	4868.1	5095.1	5241.1	*5304.1*	5231.1	5083.1	4857.1	4740.1	4697.1
52.5°	4907.1	4970.1	5113.1	5338.1	5574.1	*5660.1*	5569.1	5321.1	5099.1	4951.1	4891.1
55°	5020.1	5078.1	5233.1	5529.1	5772.1	*5829.1*	5764.1	5513.1	5219.1	5059.1	5003.1
57.5°	5038.1	5086.1	5278.1	5591.1	5774.1	*5830.1*	5770.1	5577.1	5261.1	5069.1	5022.1
59°	*5000.1*	*5046.1*	*5252.1*	*5564.1*	*5747.1*	*5868.1*	*5743.1*	*5552.1*	*5234.1*	*5031.1*	*4982.1*
60°	4977.1	5021.1	5214.1	5525.1	5721.1	*5846.1*	5717.1	5515.1	5193.1	5008.1	4958.1
62.5°	4862.1	4903.1	5155.1	5429.1	5645.1	*5743.1*	5639.1	5419.1	5139.1	4890.1	4835.1
65°	4640.1	4660.1	4901.1	5172.1	5456.1	*5515.1*	5447.1	5169.1	4881.1	4646.1	4617.1
67.5°	4395.1	4421.1	4628.1	4926.1	5195.1	*5274.1*	5181.1	4925.1	4613.1	4402.1	4369.1
70°	3998.1	4025.1	4302.1	4557.1	4775.1	*4897.1*	4752.1	4549.1	4286.1	4017.1	3970.1
72.5°	3614.1	3627.1	3824.1	4124.1	4387.1	*4363.1*	4360.1	4120.1	3809.1	3632.1	3611.1
75°	3113.1	3120.1	3350.1	3599.1	3840.1	*3866.1*	3803.1	3594.1	3333.1	3117.1	3114.1
77.5°	2573.1	2594.1	2751.1	2983.1	3167.1	*3255.1*	3147.1	2995.1	2735.1	2596.1	2578.1
80°	1980.0	2006.0	2166.0	2351.0	2510.1	*2517.1*	2495.1	2367.0	2152.0	2009.0	1988.0
82.5°	1368.0	1395.0	1536.0	1674.0	1828.0	*1836.0*	1811.0	1689.0	1523.0	1400.0	1380.0
85°	756.0	780.0	876.0	982.0	1107.0	*1107.0*	1072.0	1001.0	866.0	788.0	769.0
87.5°	128.0	130.0	189.0	248.0	360.0	*372.0*	339.0	271.0	199.0	156.0	143.0
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: SP1-2411-284-1

Test Date: 11/15/2024

Luminaire Tested: TTN-D0-735-U-WQ

Data in this report applies to families of products including TT-xx-735 and TTN-xx-735

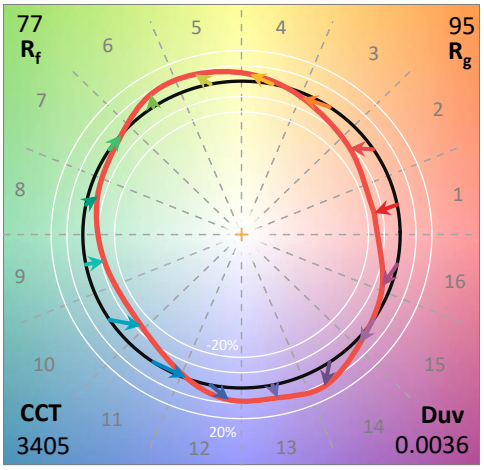
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2411-284-1
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	11/15/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	MCGRAW EDISON
Catalog Number:	**TTN-D0-735-U-WQ**
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3500K, 70 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K):	3405	CRI (Ra):	73.9		
CIE u':	0.2365	R1:	71.3	R9:	-18.0
CIE v':	0.5180	R2:	80.3	R10:	53.1
Duv:	0.0036	R3:	87.8	R11:	68.6
CIE x:	0.4148	R4:	73.2	R12:	42.6
CIE y:	0.4038	R5:	69.8	R13:	72.5
CIE z:	0.1814	R6:	71.8	R14:	92.7
Peak Wavelength (nm):	596	R7:	82.8	R15:	64.3
Dominant Wavelength (nm):	579	R8:	54.1		
Purity:	45.70672				
Rf:	76.6				
Rg:	95.4				



Test Conditions

Stabilization Time:	38M
Operation Time:	1H 38M
Sphere Temperature (°C):	24.9

REPORT NUMBER: SP1-2411-284-1

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

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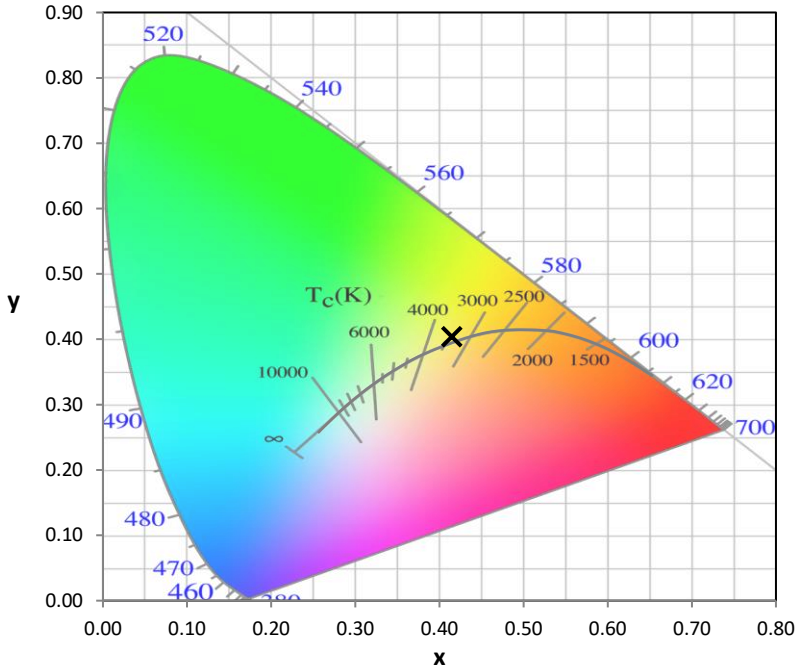
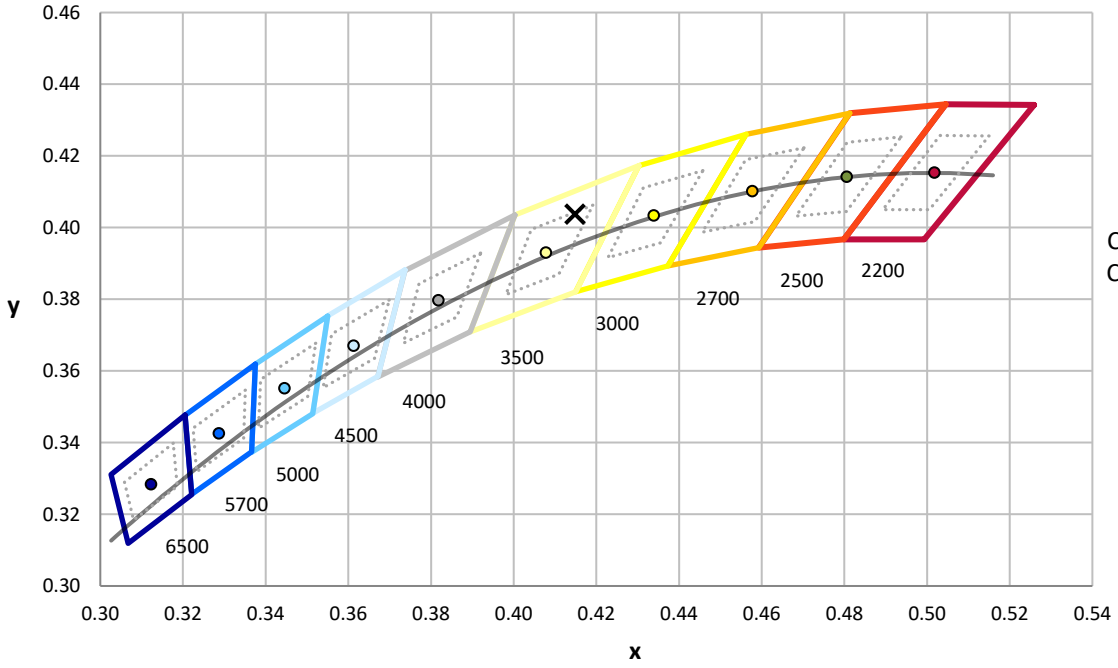
CIE 1931 Chromaticity Diagram



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



CCT = 3405K
CIE x = 0.4148
CIE y = 0.4038
Duv = 0.0036

Point lies inside the ANSI 3500K 4-step quadrangle

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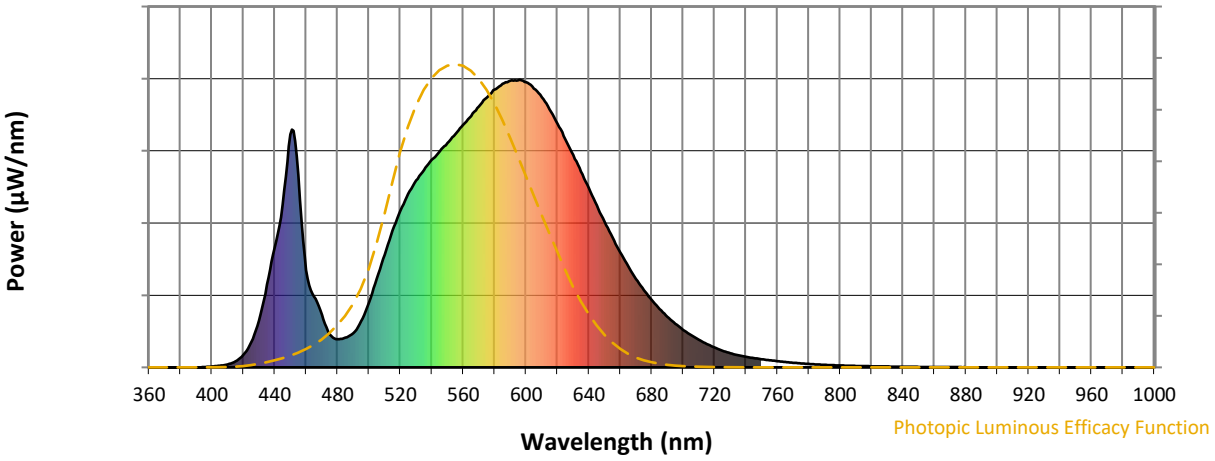
Photopic Flux vs. Wavelength

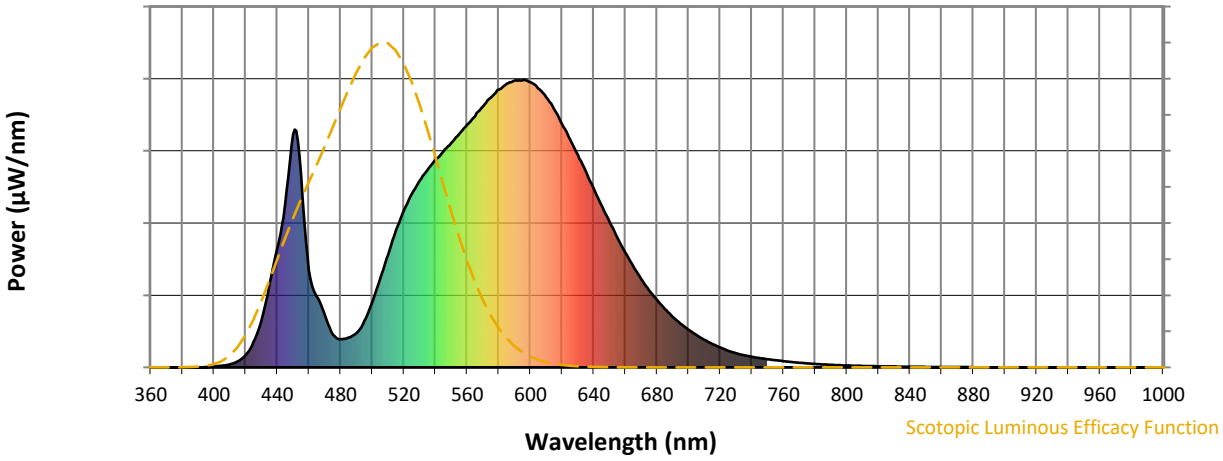


Photopic Lumens: NR

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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.33**

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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

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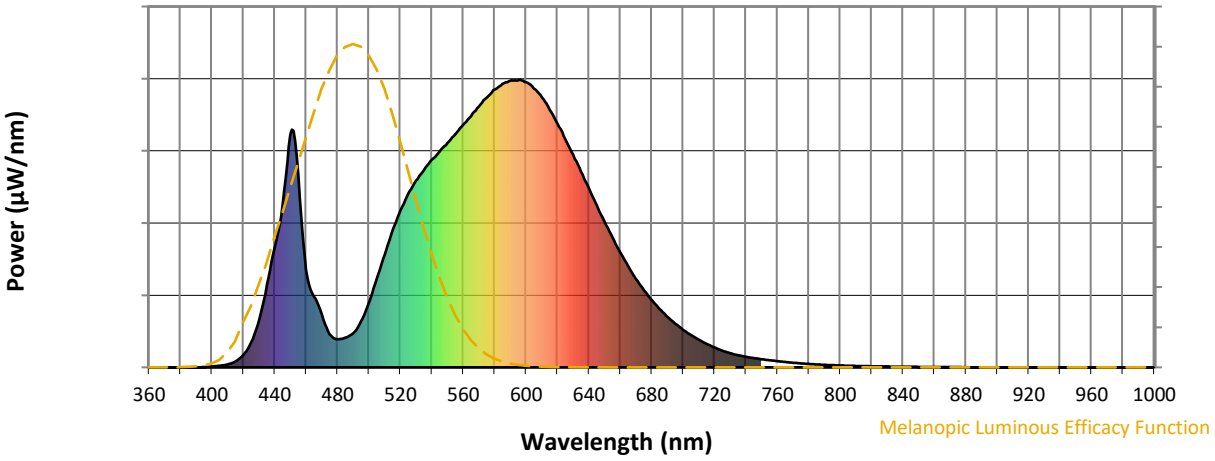
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.47**

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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

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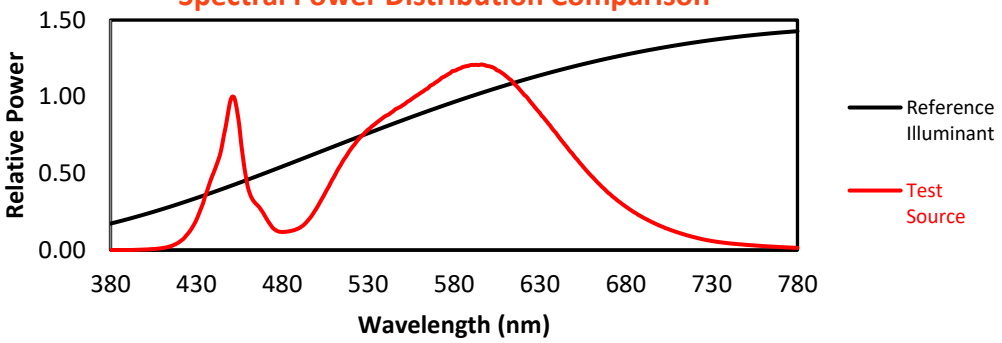
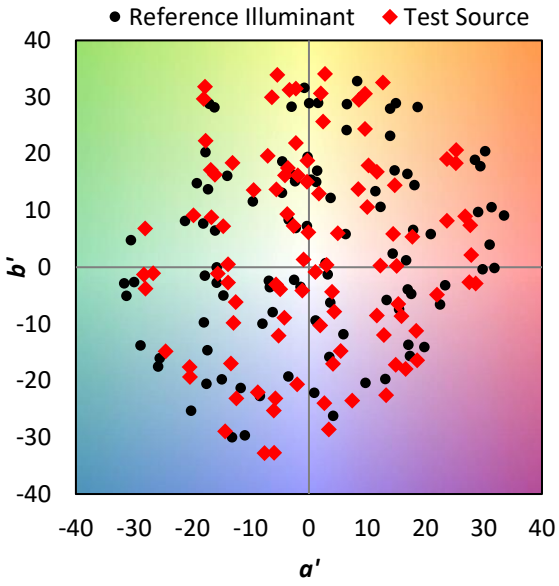
Summary

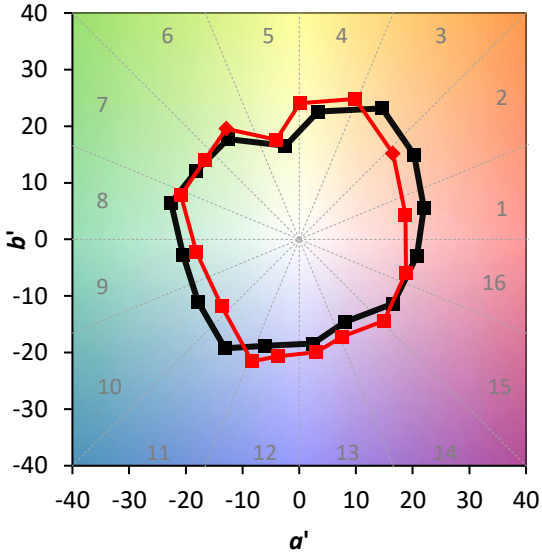
R_f = 76.6
R_g = 95.4
CIE R_a = 73.9
R_9 = -18.0

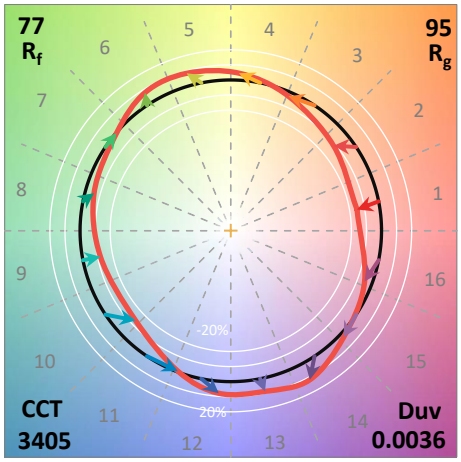
Spectral Power Distribution Comparison

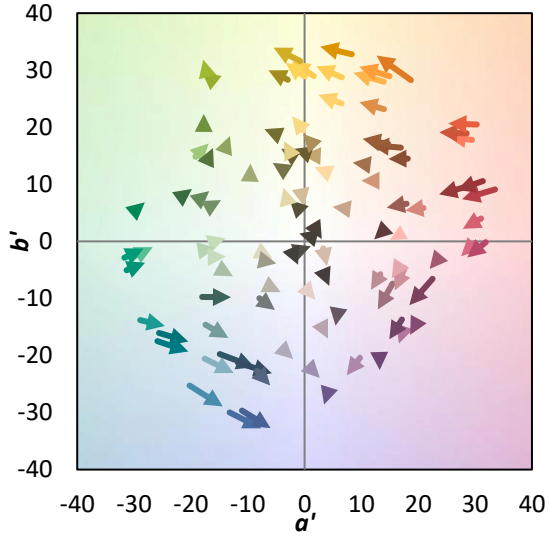


Color Vector Graphics









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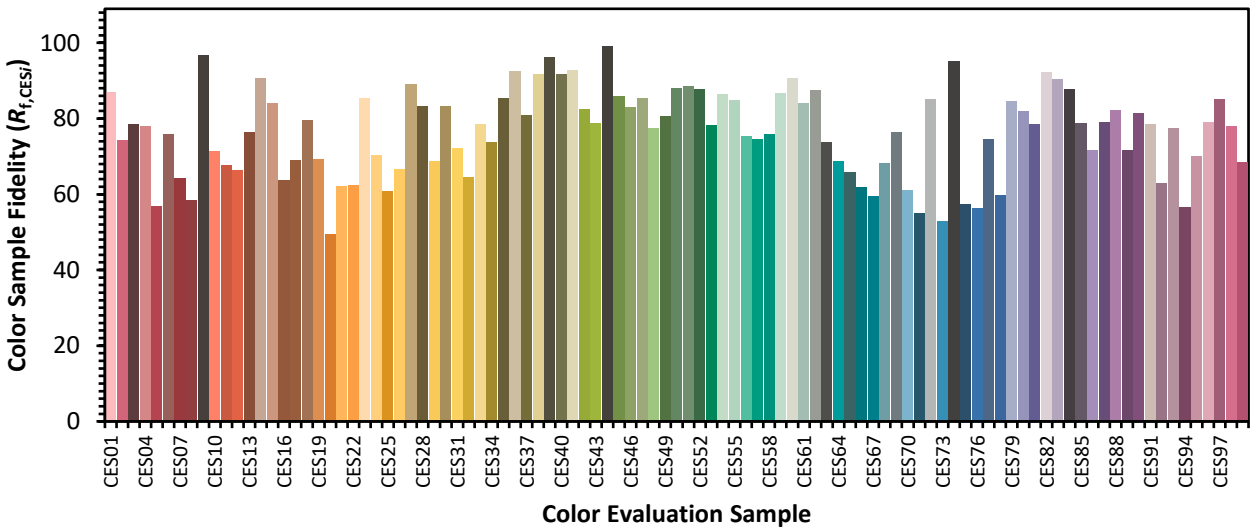
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82 = 92
CES08 = 40	CES33 = 78	CES58 = 76	CES83 = 90
CES09 = 29	CES34 = 74	CES59 = 87	CES84 = 88
CES10 = 75	CES35 = 86	CES60 = 91	CES85 = 79
CES11 = 58	CES36 = 93	CES61 = 84	CES86 = 72
CES12 = 64	CES37 = 81	CES62 = 88	CES87 = 79
CES13 = 43	CES38 = 92	CES63 = 74	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 72
CES15 = 71	CES40 = 92	CES65 = 66	CES90 = 82
CES16 = 47	CES41 = 93	CES66 = 62	CES91 = 79
CES17 = 50	CES42 = 83	CES67 = 60	CES92 = 63
CES18 = 56	CES43 = 79	CES68 = 68	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 56
CES20 = 65	CES45 = 86	CES70 = 61	CES95 = 70
CES21 = 86	CES46 = 83	CES71 = 55	CES96 = 79
CES22 = 79	CES47 = 85	CES72 = 85	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 53	CES98 = 78
CES24 = 91	CES49 = 81	CES74 = 95	CES99 = 68
CES25 = 72	CES50 = 88	CES75 = 57	



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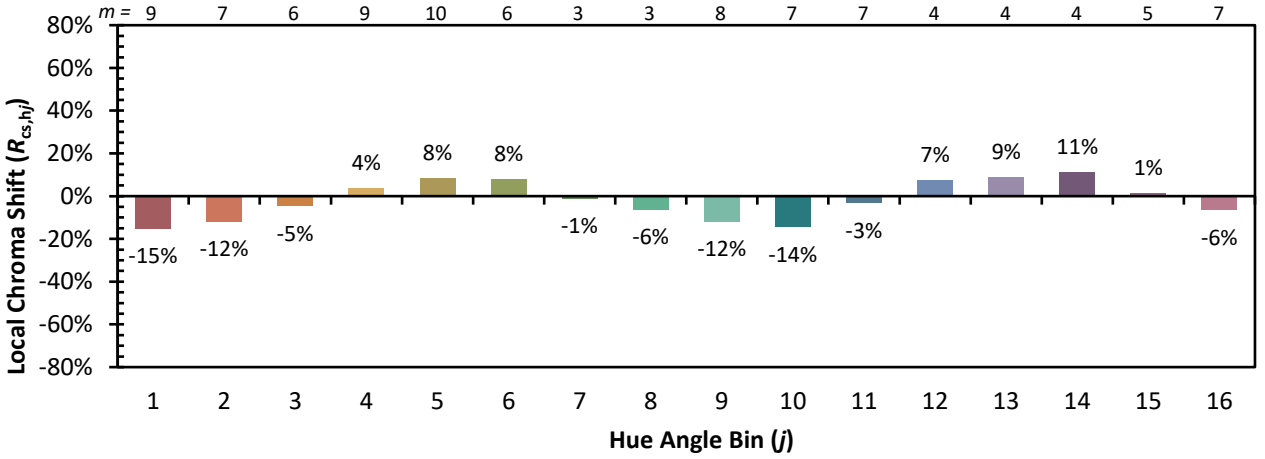
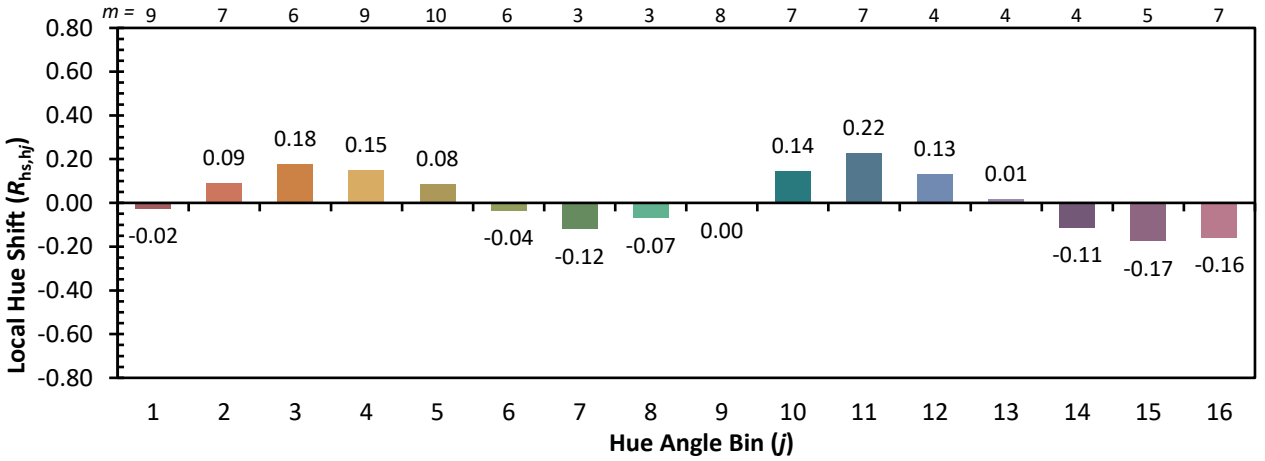
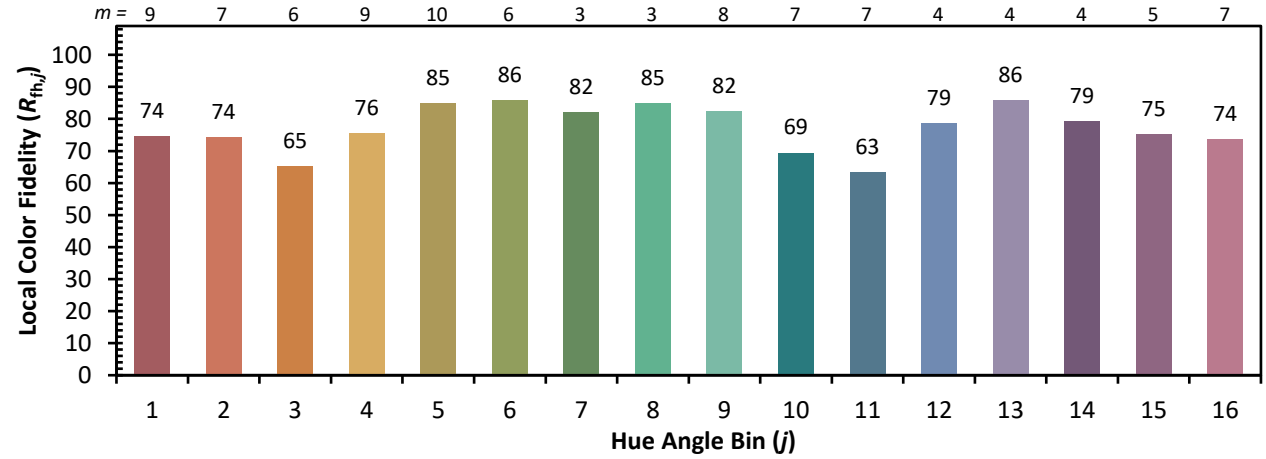
Color Rendition by Hue-Angle Bin







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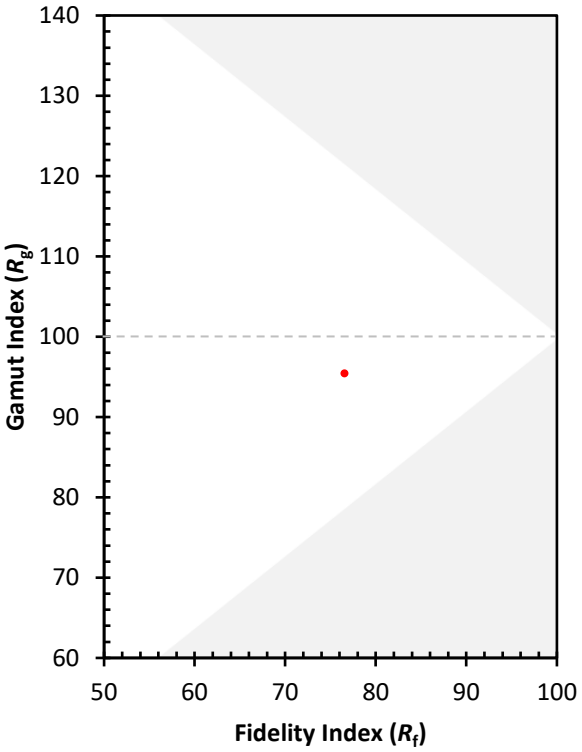
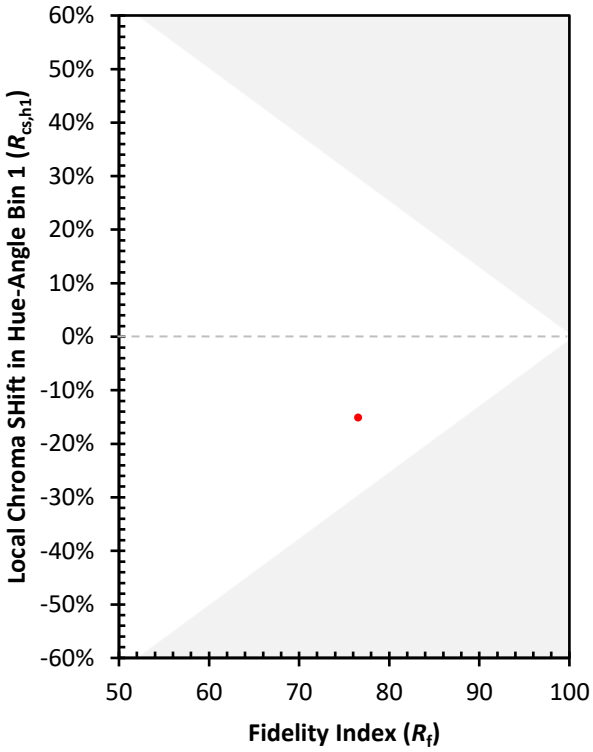
Measure Comparisons





(END OF REPORT)