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: P543094

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

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:	P543094
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2012-100-9)
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-MQ
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3500K, 70 CRI LEDS AND MEDIUM DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	22830.9 lumens
Efficiency:	N/A
Efficacy:	117.8 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B4 - U0 - G3

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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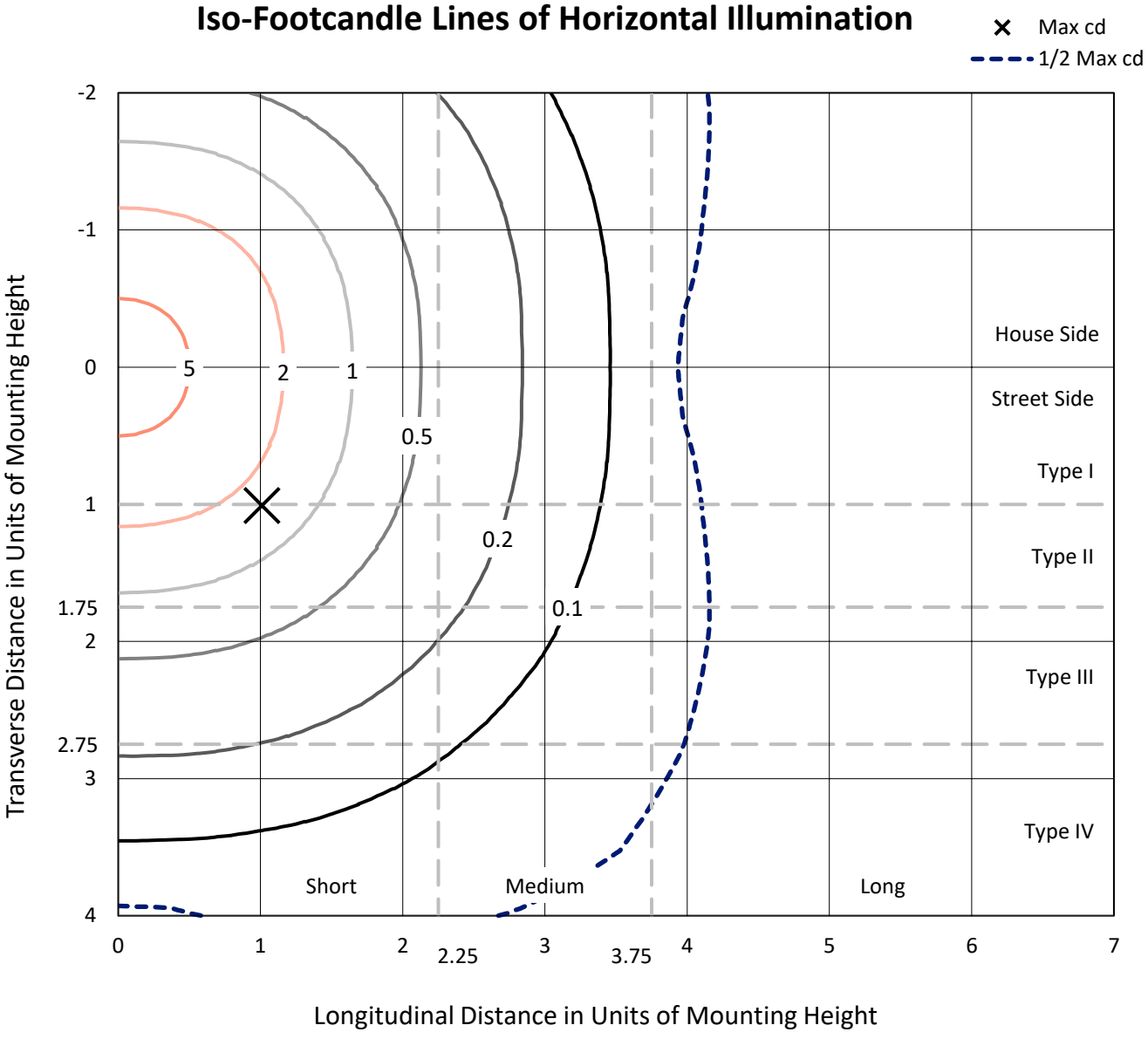
Scaled Data Report

REPORT NUMBER: P543094
CATALOG NUMBER: TT-D10-735-U-MQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 7.6 fc
Type V - Short - N/A

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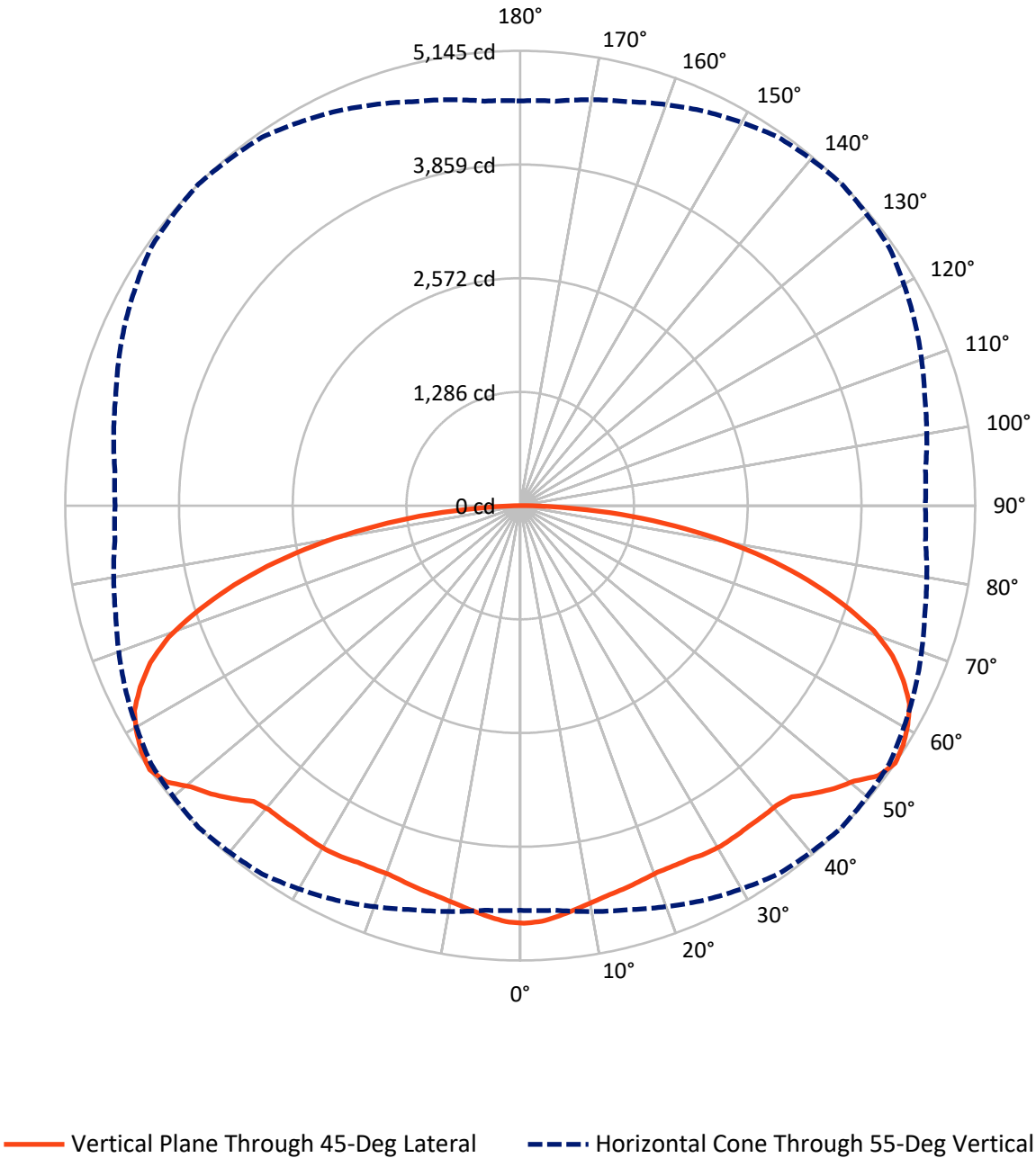
REPORT NUMBER: P543094
CATALOG NUMBER: TT-D10-735-U-MQ

Luminous Intensity Polar Plot



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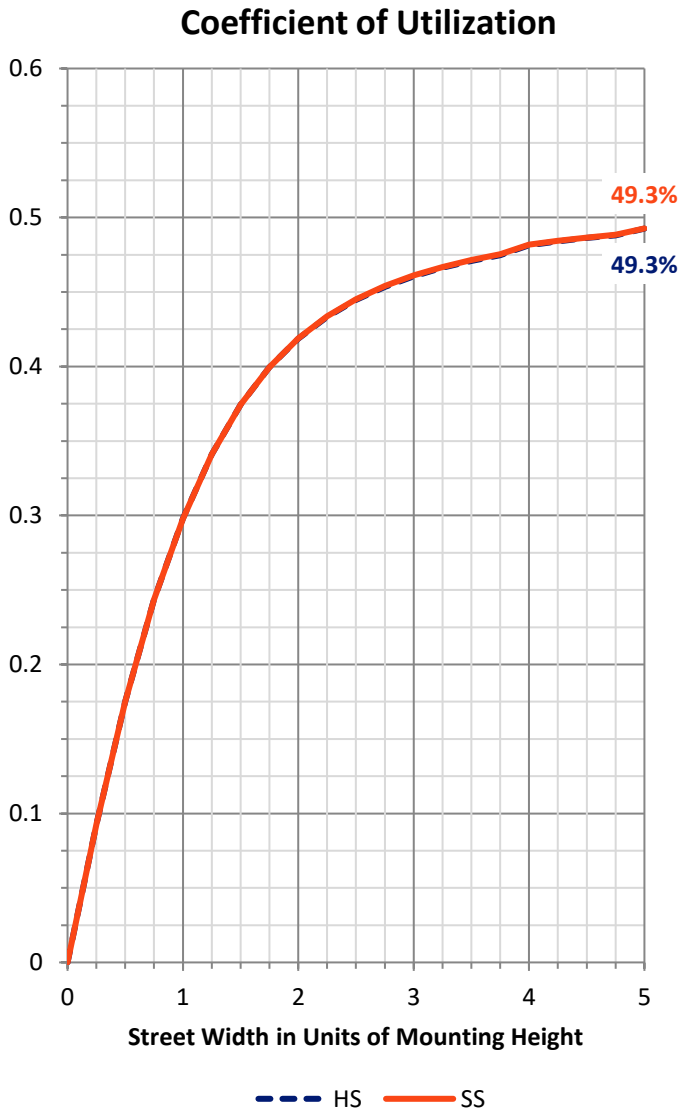
REPORT NUMBER: P543094
CATALOG NUMBER: TT-D10-735-U-MQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	11415.5	0.0	11415.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	11415.5	0.0	11415.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	22830.9	0.0	22830.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.1	1.9
10°-20°	1266.7	5.5
20°-30°	2041.2	8.9
30°-40°	2766.0	12.1
40°-50°	3506.4	15.4
50°-60°	4313.8	18.9
60°-70°	4345.0	19.0
70°-80°	3180.0	13.9
80°-90°	970.7	4.3
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°	22830.9	100.0
0°-180°	22830.9	100.0



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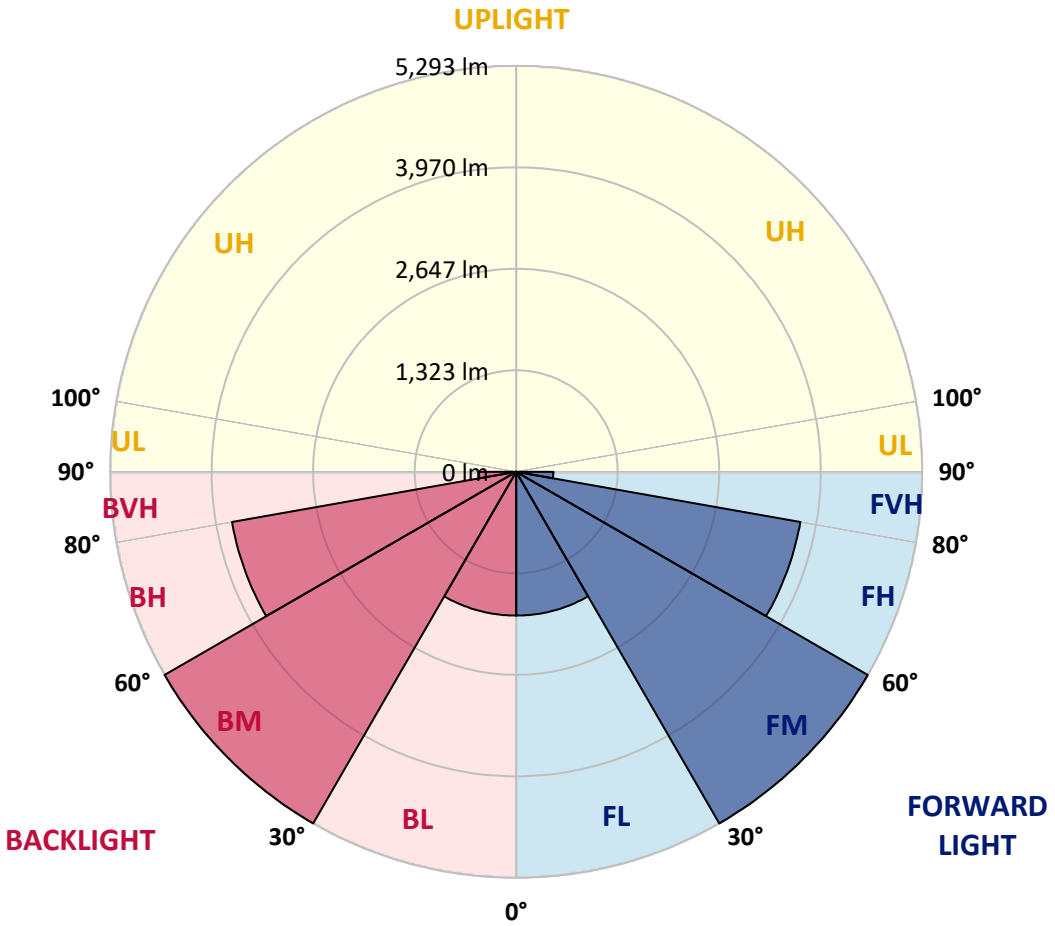
REPORT NUMBER: P543094
CATALOG NUMBER: TT-D10-735-U-MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1874.5	8.2			
FM	(30°-60°)	5293.1	23.2			
FH	(60°-80°)	3762.5	16.5			G2/5000
FVH	(80°-90°)	485.4	2.1			G3/500
BL	(0°-30°)	1874.5	8.2	B3/2500		
BM	(30°-60°)	5293.1	23.2	B4/8500		
BH	(60°-80°)	3762.5	16.5	B4/5000		G2/5000
BVH	(80°-90°)	485.4	2.1			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G3
Type V Short



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REPORT NUMBER: P543094
CATALOG NUMBER: TT-D10-735-U-MQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9	4723.9
2.5°	4702.9	4705.9	4704.9	4706.9	4706.9	4708.9	4706.9	4708.9	4705.9	4706.9	4706.9
5°	4651.9	4655.9	4652.9	4657.9	4658.9	4659.9	4656.9	4656.9	4653.9	4653.9	4654.9
7.5°	4596.9	4598.9	4598.9	4603.9	4606.9	4606.9	4603.9	4599.9	4597.9	4594.9	4594.9
10°	4543.9	4546.9	4545.9	4550.9	4554.9	4555.9	4551.9	4544.9	4541.9	4539.9	4539.9
12.5°	4497.9	4500.9	4502.9	4508.9	4514.9	4514.9	4512.9	4504.9	4499.9	4496.9	4495.9
15°	4463.9	4466.9	4467.9	4476.9	4482.9	4485.9	4481.9	4473.9	4467.9	4463.9	4461.9
17.5°	4429.9	4431.9	4436.9	4444.9	4450.9	4454.9	4450.9	4442.9	4434.9	4427.9	4425.9
20°	4396.9	4397.9	4404.9	4415.9	4423.9	4427.9	4423.9	4411.9	4399.9	4393.9	4392.9
22.5°	4381.9	4383.9	4392.9	4408.9	4419.9	4427.9	4417.9	4402.9	4388.9	4378.9	4377.9
25°	4371.9	4372.9	4384.9	4406.9	4426.9	4432.9	4425.9	4404.9	4382.9	4369.9	4368.9
27.5°	4380.9	4384.9	4400.9	4422.9	4448.9	4458.9	4451.9	4421.9	4397.9	4382.9	4379.9
30°	4378.9	4381.9	4399.9	4424.9	4448.9	4468.9	4454.9	4422.9	4394.9	4379.9	4377.9
32.5°	4372.9	4376.9	4392.9	4413.9	4447.9	4461.9	4448.9	4411.9	4387.9	4376.9	4372.9
35°	4347.9	4354.9	4377.9	4408.9	4439.9	4453.9	4438.9	4407.9	4374.9	4356.9	4354.9
37.5°	4337.9	4342.9	4365.9	4401.9	4442.9	4457.9	4437.9	4400.9	4363.9	4343.9	4338.9
40°	4321.9	4329.9	4357.9	4399.9	4446.9	4460.9	4444.9	4401.9	4359.9	4326.9	4317.9
42.5°	4321.9	4328.9	4367.9	4425.9	4477.9	4502.9	4477.9	4428.9	4369.9	4323.9	4316.9
45°	4390.9	4399.9	4448.9	4534.9	4615.9	4645.9	4614.9	4539.9	4450.9	4397.9	4383.9
47.5°	4449.9	4462.9	4536.9	4645.9	4746.9	4780.9	4743.9	4647.9	4537.9	4462.9	4449.9
50°	4493.9	4508.9	4604.9	4742.9	4850.9	4896.9	4854.9	4745.9	4606.9	4510.9	4495.9
52.5°	4572.9	4595.9	4709.9	4865.9	5016.9	5074.9	5016.9	4870.9	4709.9	4598.9	4572.9
55°	4578.9	4593.9	4730.9	4923.9	5087.9	5144.9	5094.9	4924.9	4735.9	4600.9	4581.9
57.5°	4509.9	4526.9	4671.9	4893.9	5056.9	5106.9	5057.9	4896.9	4684.9	4536.9	4519.9
60°	4385.9	4402.9	4553.9	4784.9	4959.9	5035.9	4963.9	4789.9	4568.9	4414.9	4395.9
62.5°	4250.9	4282.9	4456.9	4686.9	4860.9	4940.9	4868.9	4690.9	4466.9	4294.9	4265.9
65°	4037.9	4051.9	4238.9	4487.9	4701.9	4759.9	4702.9	4494.9	4270.9	4063.9	4052.9
67.5°	3821.9	3847.9	4002.9	4280.9	4487.9	4542.9	4486.9	4279.9	4022.9	3855.9	3836.9
70°	3462.9	3492.9	3710.9	3949.9	4145.9	4241.9	4151.9	3952.9	3744.9	3504.9	3488.9
72.5°	3131.0	3162.0	3311.9	3580.9	3779.9	3820.9	3792.9	3585.9	3342.9	3183.9	3162.0
75°	2697.0	2708.0	2901.0	3129.0	3312.9	3356.9	3321.9	3126.0	2937.0	2733.0	2701.0
77.5°	2246.0	2268.0	2404.0	2599.0	2758.0	2837.0	2756.0	2610.0	2418.0	2269.0	2247.0
80°	1730.0	1754.0	1895.0	2072.0	2195.0	2258.0	2198.0	2067.0	1908.0	1756.0	1745.0
82.5°	1220.0	1221.0	1361.0	1477.0	1600.0	1636.0	1602.0	1501.0	1371.0	1232.0	1234.0
85°	691.0	698.0	794.0	900.0	971.0	1019.0	981.0	906.0	804.0	707.0	698.0
87.5°	157.0	156.0	206.0	267.0	346.0	345.0	338.0	276.0	212.0	154.0	152.0
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

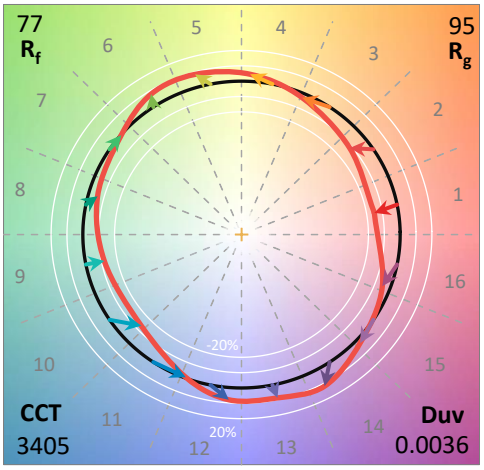
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

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

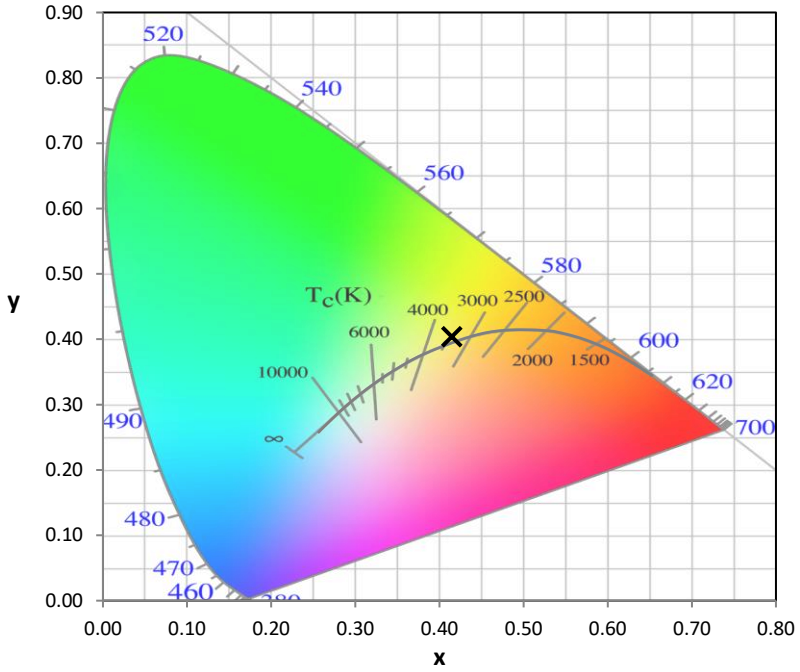
Stabilization Time:	38M
Operation Time:	1H 38M
Sphere Temperature (°C):	24.9

REPORT NUMBER: SP1-2411-284-1

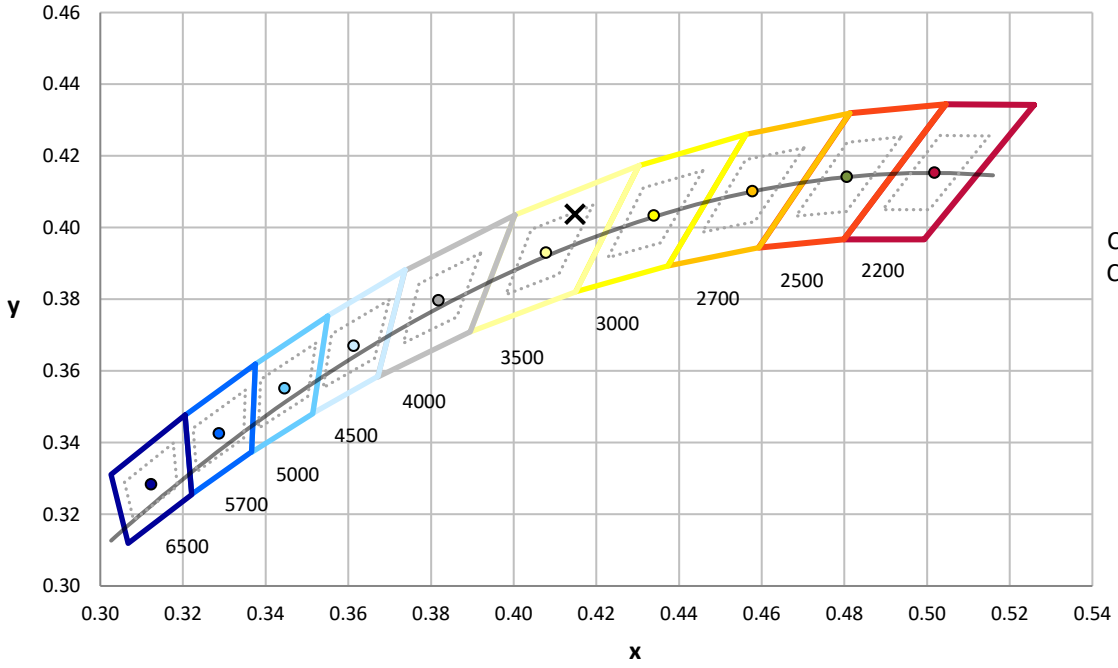
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-1

CIE 1931 Chromaticity Diagram



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

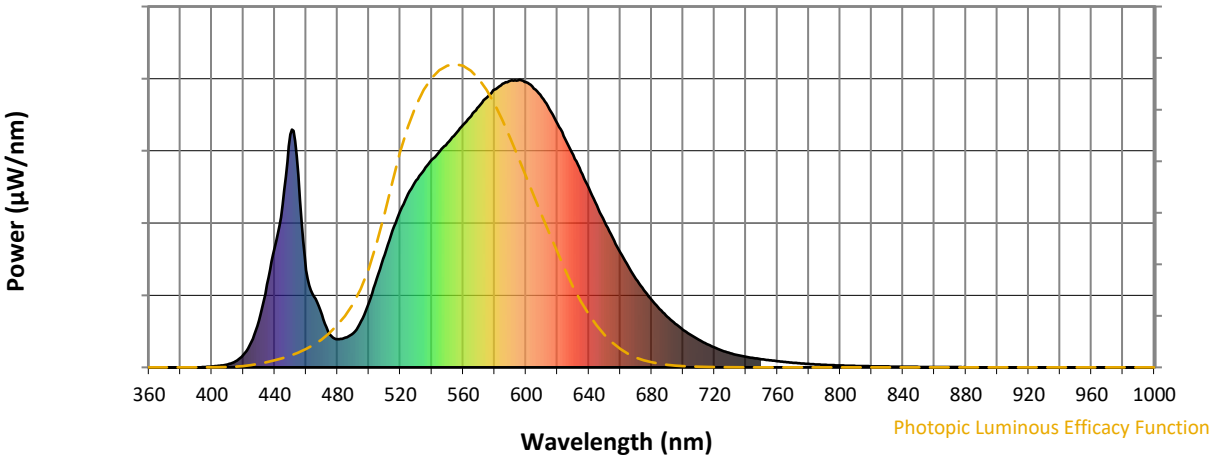


CCT = 3405K
CIE x = 0.4148
CIE y = 0.4038
Duv = 0.0036

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2411-284-1

Photopic Flux vs. Wavelength

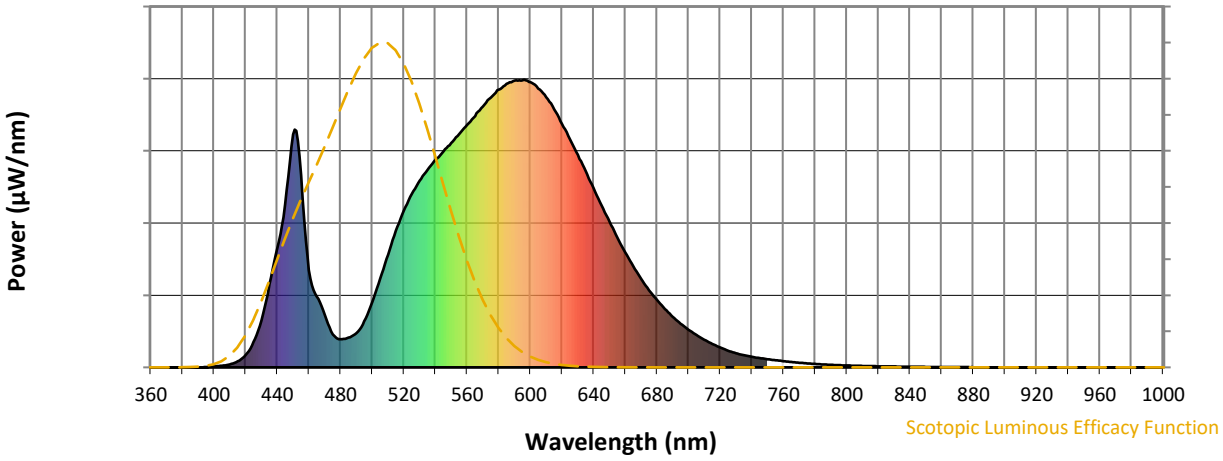


Photopic Lumens: NR

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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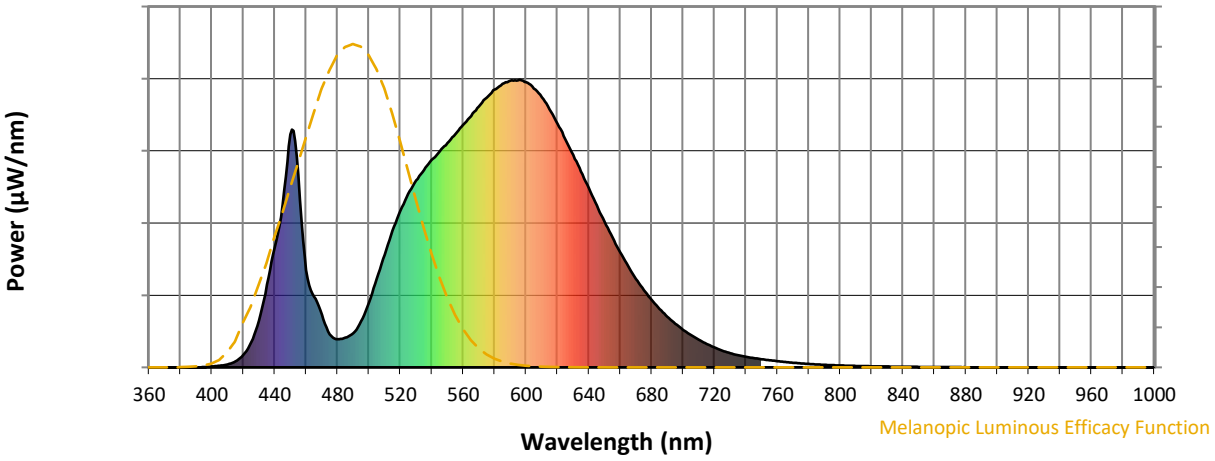
Melanopic Flux vs. Wavelength



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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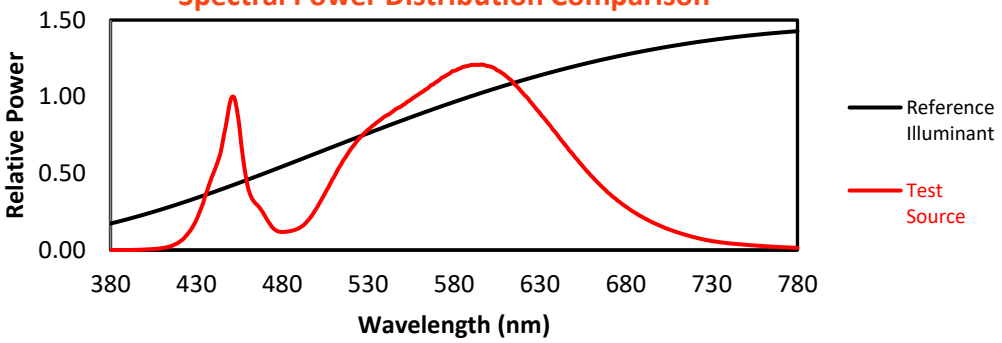
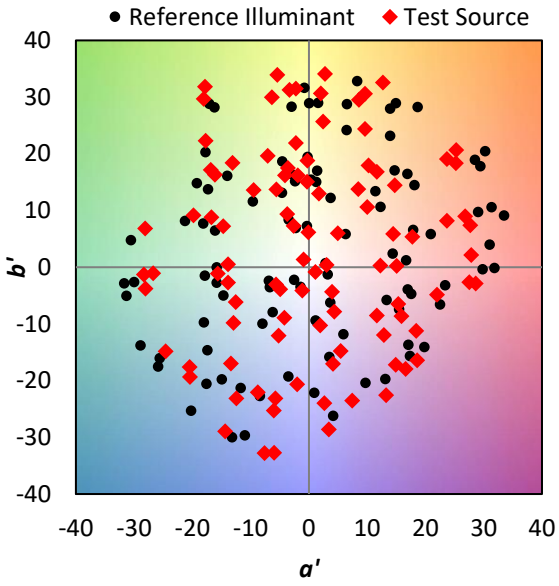
Summary

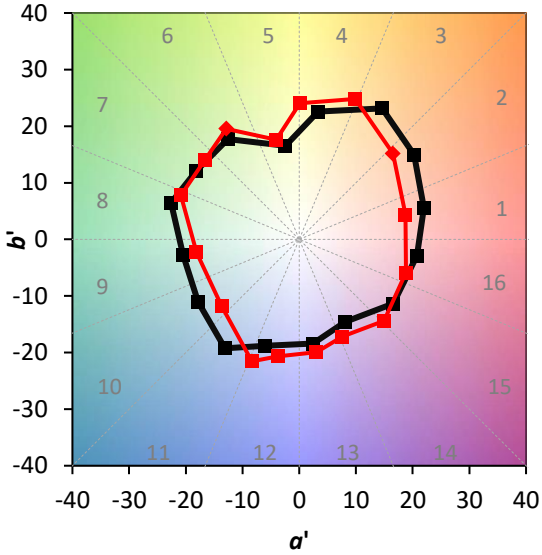
R_f = 76.6
R_g = 95.4
CIE R_a = 73.9
R_9 = -18.0

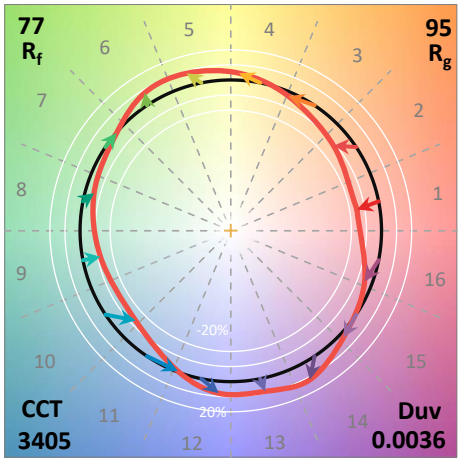
Spectral Power Distribution Comparison

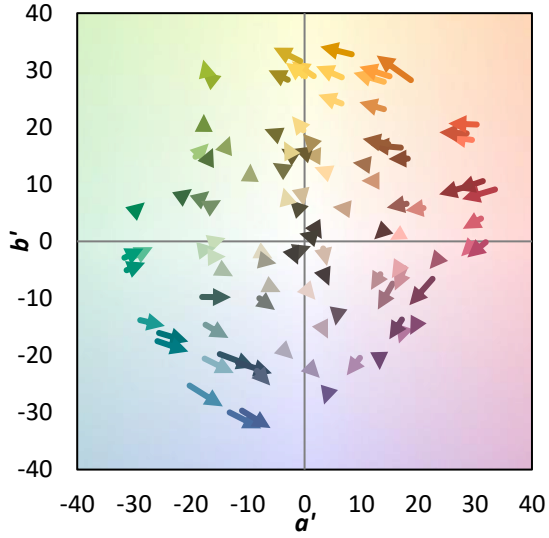


Color Vector Graphics









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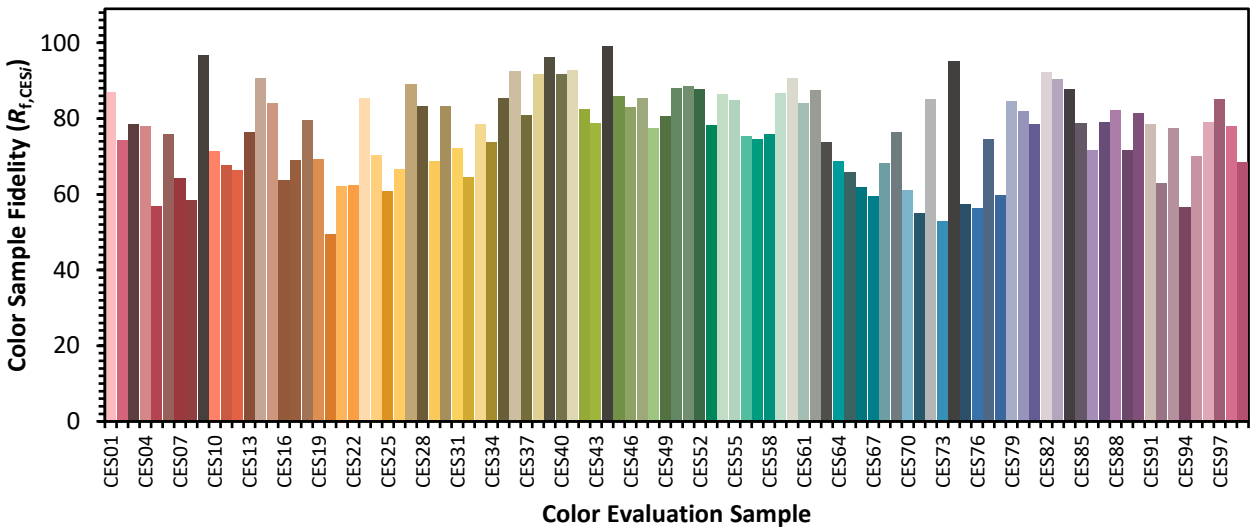
Individual Sample Fidelity Index ($R_{f,i}$)

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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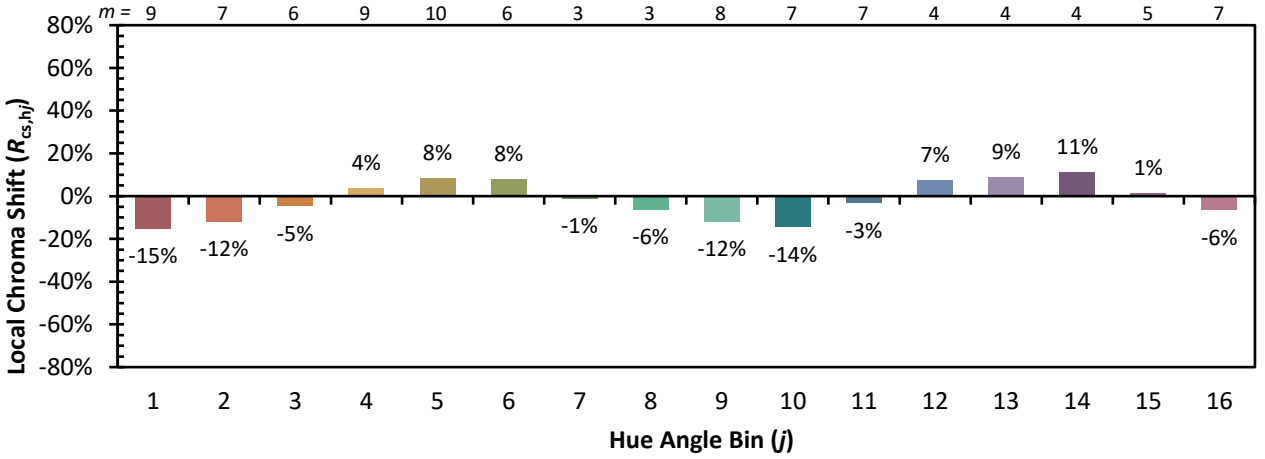
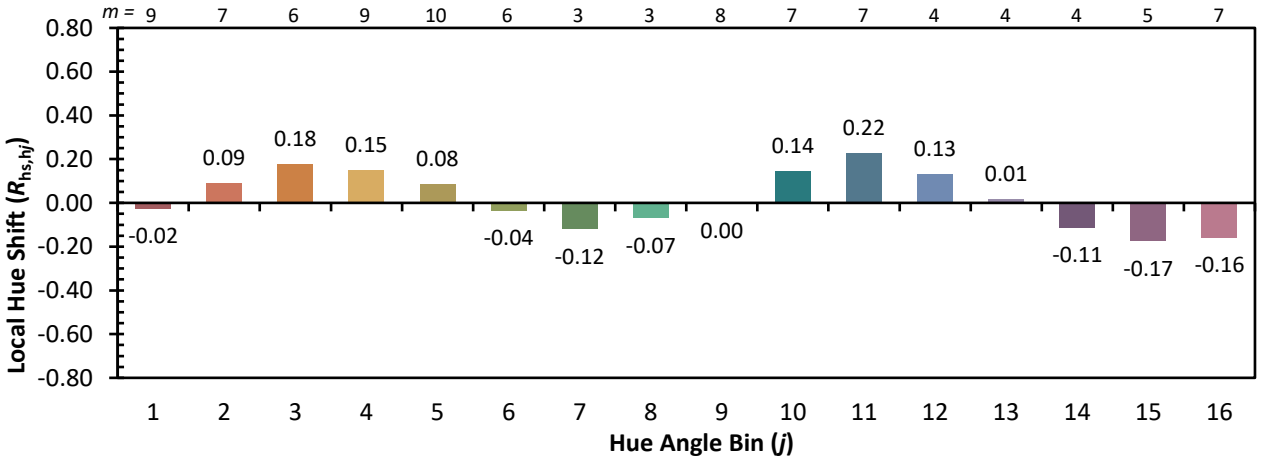
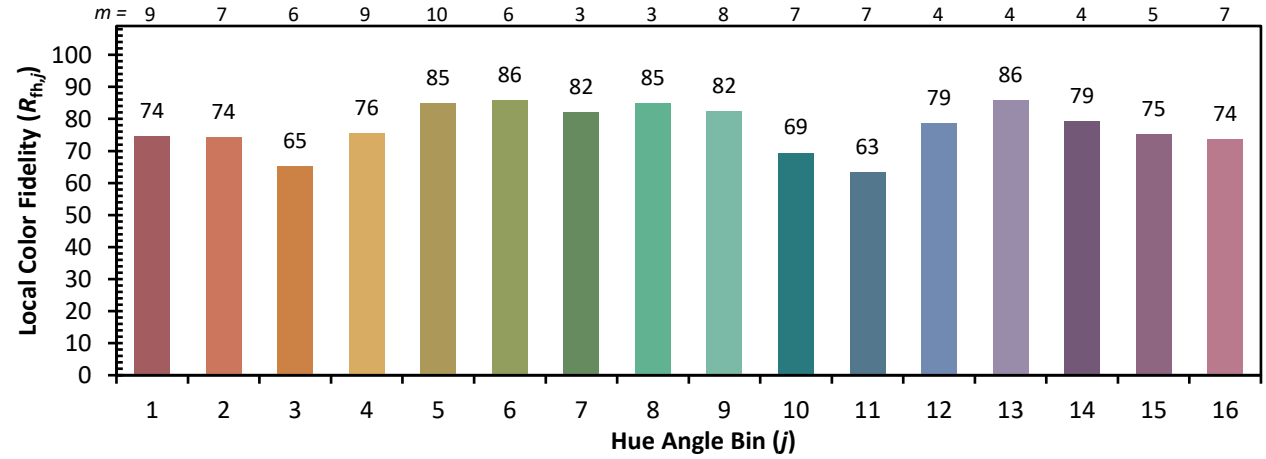
Color Rendition by Hue-Angle Bin







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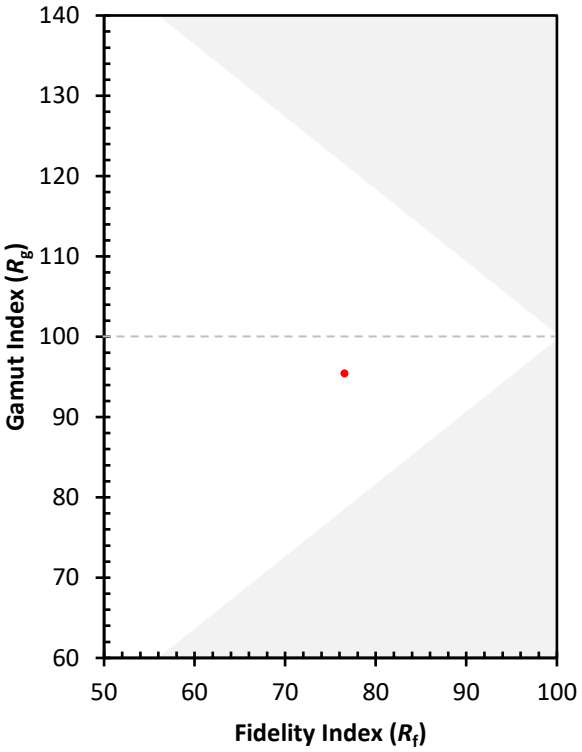
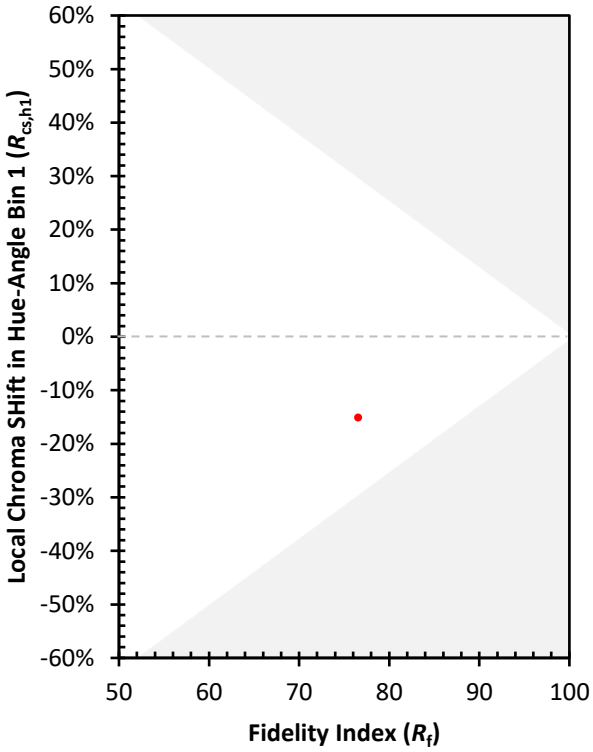
Measure Comparisons





(END OF REPORT)