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: P832885

Luminaire Tested: **TTN-D0-750-U-WQ-SG-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:	P832885
	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-D0-750-U-WQ-SG-UPL1
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	5000K, 70 CRI LEDS AND WIDE DISTRIBUTION WITH SOLITE GLASS
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1455 lumens
Efficiency:	N/A
Efficacy:	109.4 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification:	Type V - Short
BUG Rating:	B1 - U3 - G1

Input Watts (W):	13.3
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: P832885
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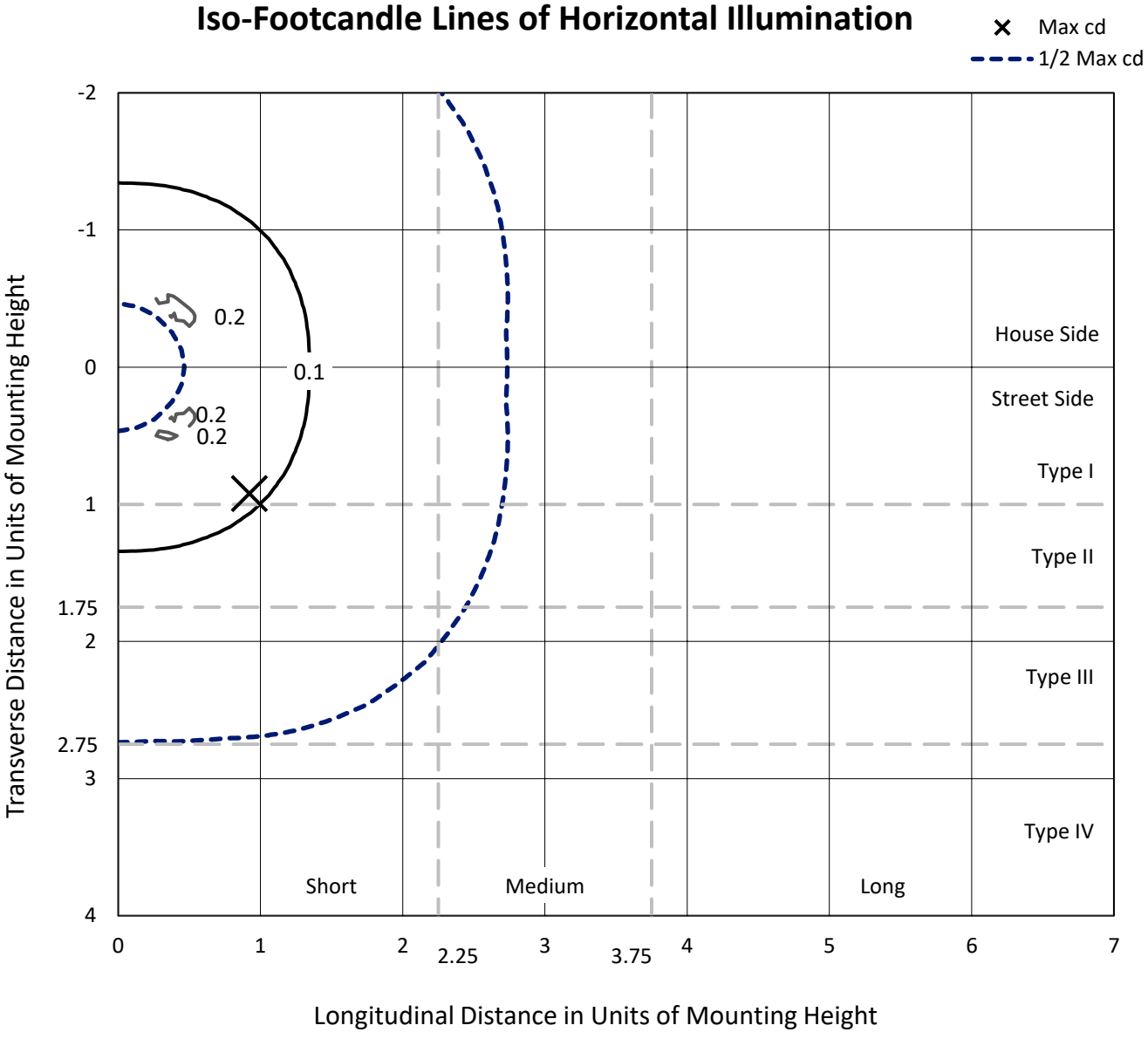
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 0.2 fc
Type V - Short - N/A

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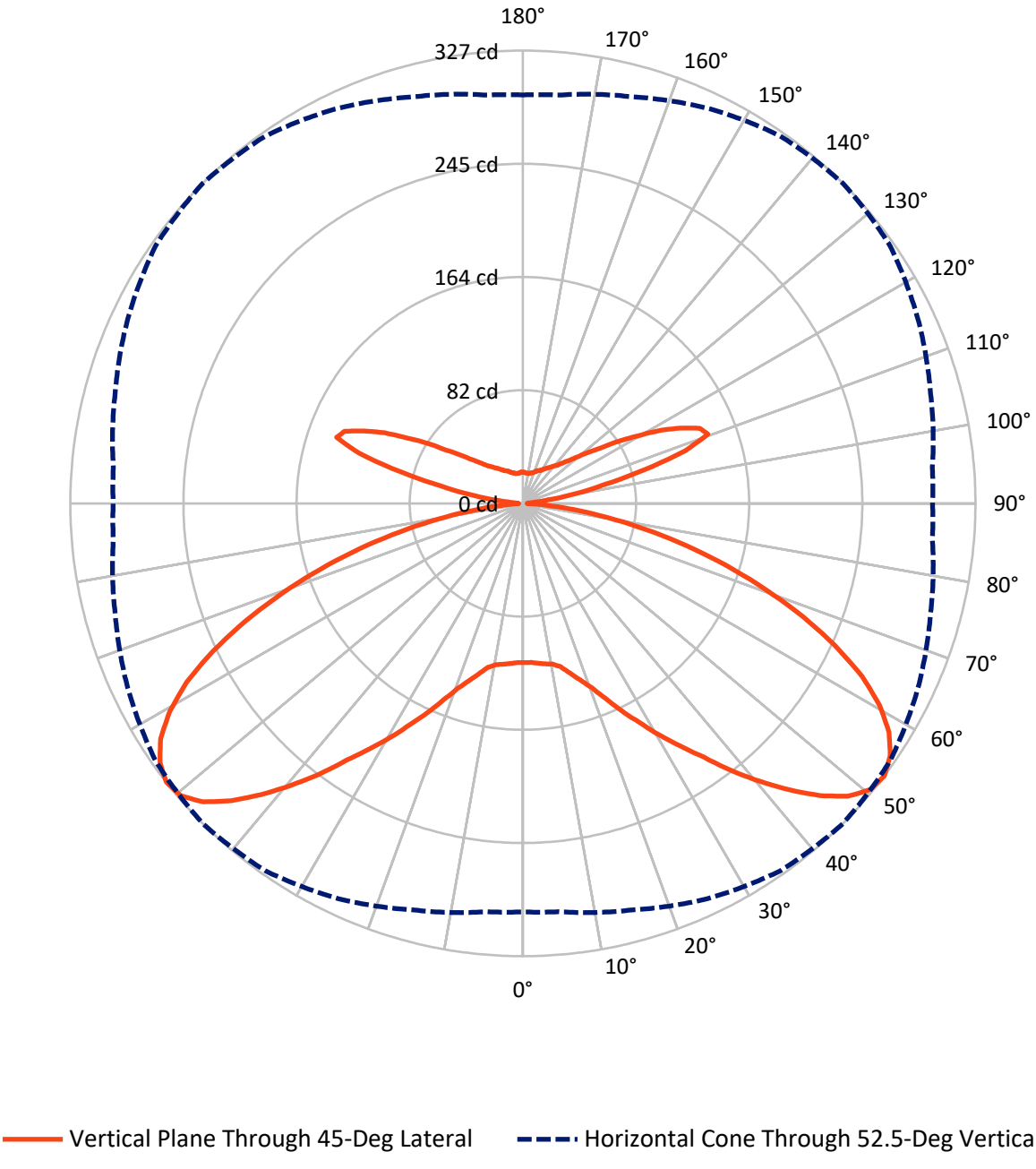
Luminous Intensity Polar Plot



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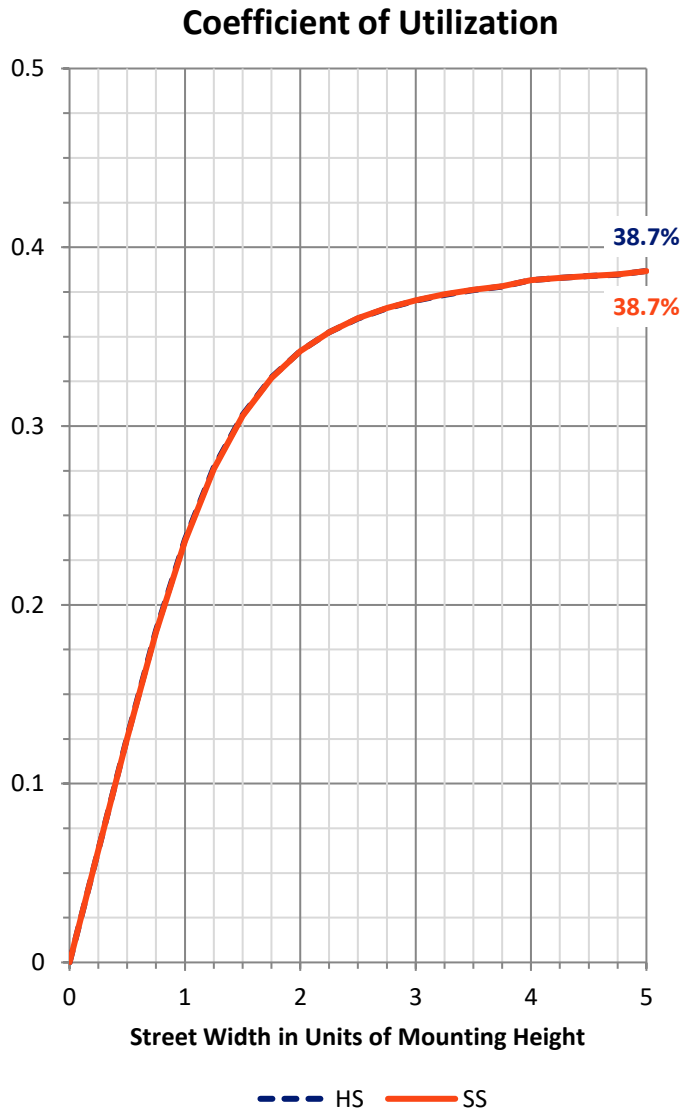
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	565.8	161.7	727.5
	% Fixture	38.9	11.1	50.0
Street Side	Lumens	565.8	161.7	727.5
	% Fixture	38.9	11.1	50.0
Total	Lumens	1131.6	323.4	1455.0
	% Fixture	77.8	22.2	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.1	0.8
10°-20°	36.5	2.5
20°-30°	77.0	5.3
30°-40°	140.7	9.7
40°-50°	224.0	15.4
50°-60°	270.9	18.6
60°-70°	227.8	15.7
70°-80°	120.7	8.3
80°-90°	22.8	1.6
90°-100°	7.2	0.5
100°-110°	73.4	5.0
110°-120°	107.3	7.4
120°-130°	62.3	4.3
130°-140°	33.0	2.3
140°-150°	19.6	1.3
150°-160°	12.1	0.8
160°-170°	6.6	0.5
170°-180°	2.1	0.1
0°-90°	1131.6	77.8
0°-180°	1455.0	100.0



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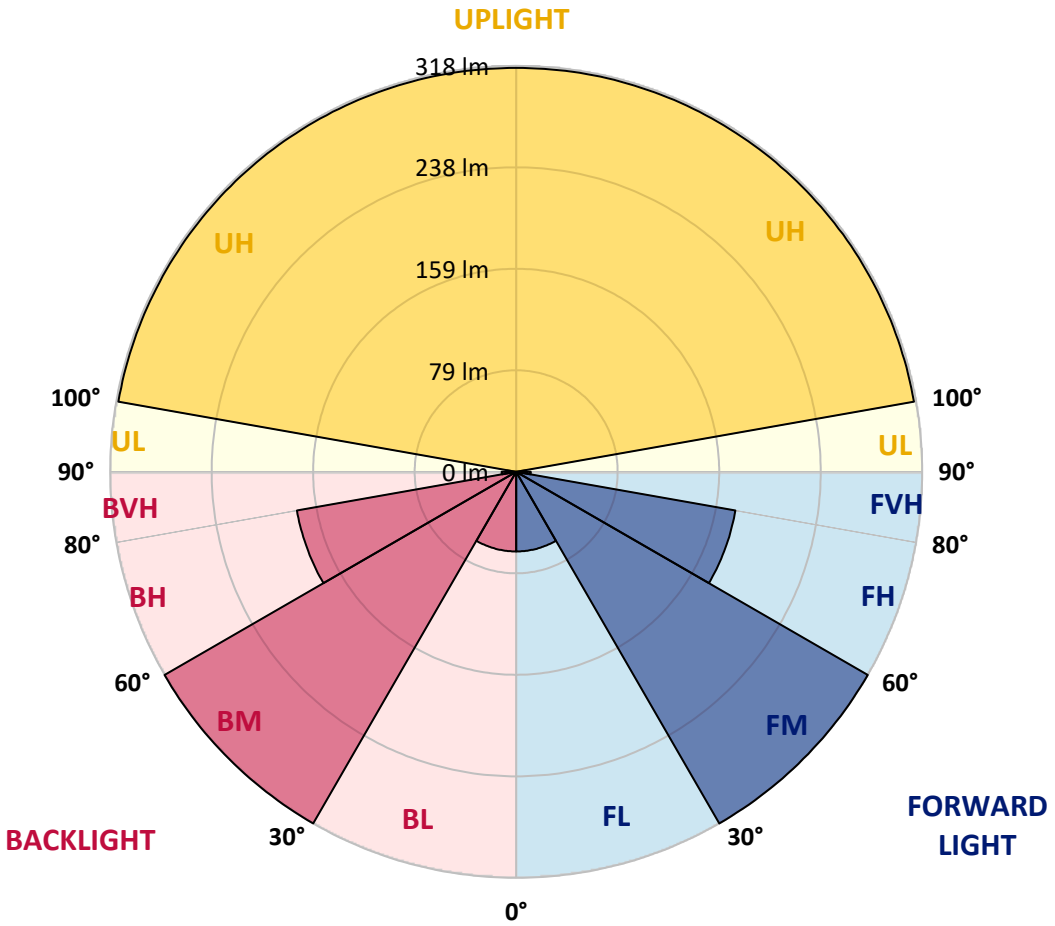
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	62.3	4.3			
FM	(30°-60°)	317.8	21.8			
FH	(60°-80°)	174.3	12.0			G0/660
FVH	(80°-90°)	11.4	0.8			G1/100
BL	(0°-30°)	62.3	4.3	B0/110		
BM	(30°-60°)	317.8	21.8	B1/1000		
BH	(60°-80°)	174.3	12.0	B1/500		G0/660
BVH	(80°-90°)	11.4	0.8			G1/100
UL	(90°-100°)	7.2	0.5		U1/10	
UH	(100°-180°)	316.2	21.7		U3/500	

BUG Rating: B1-U3-G1
Type V Short



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REPORT NUMBER: P832885
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0
2.5°	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0	115.0
5°	116.0	116.0	115.0	116.0	116.0	116.0	116.0	116.0	116.0	116.0	116.0
7.5°	116.0	116.0	116.0	117.0	117.0	117.0	117.0	116.0	116.0	116.0	116.0
10°	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0	118.0
12.5°	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0	121.0
15°	126.0	126.0	126.0	126.0	127.0	127.0	127.0	126.0	126.0	126.0	126.0
17.5°	132.0	132.0	133.0	133.0	134.0	134.0	134.0	133.0	132.0	133.0	132.0
20°	141.0	141.0	141.0	142.0	143.0	142.0	143.0	141.0	141.0	141.0	141.0
22.5°	151.0	151.0	151.0	152.0	153.0	153.0	153.0	151.0	151.0	151.0	151.0
25°	163.0	163.0	163.0	164.0	165.0	166.0	166.0	164.0	163.0	163.0	162.0
27.5°	175.0	175.0	177.0	178.0	179.0	179.0	179.0	177.0	176.0	176.0	176.0
30°	189.0	189.0	191.0	192.0	194.0	194.0	194.0	191.0	190.0	189.0	189.0
32.5°	202.0	203.0	205.0	207.0	209.0	209.0	210.0	206.0	204.0	203.0	203.0
35°	216.0	217.0	219.0	222.0	224.0	225.0	226.0	222.0	219.0	218.0	218.0
37.5°	232.0	233.0	236.0	239.0	243.0	245.0	246.0	240.0	235.0	233.0	233.0
40°	250.0	251.0	254.0	258.0	262.0	264.0	265.0	259.0	254.0	252.0	251.0
42.5°	265.0	267.0	270.0	276.0	280.0	283.0	283.0	276.0	270.0	267.0	267.0
45°	279.0	281.0	286.0	292.0	298.0	301.0	300.0	293.0	286.0	282.0	281.0
47.5°	290.0	292.0	298.0	305.0	313.0	316.0	315.0	307.0	298.0	293.0	292.0
50°	296.0	297.0	304.0	314.0	322.0	325.0	323.0	315.0	305.0	298.0	297.0
52.5°	295.0	296.0	304.0	315.0	324.0	327.0	324.0	315.0	305.0	297.0	296.0
55°	289.0	290.0	298.0	310.0	319.0	322.0	319.0	310.0	299.0	291.0	290.0
57.5°	278.0	279.0	287.0	299.0	309.0	312.0	308.0	298.0	287.0	279.0	279.0
60°	262.0	263.0	271.0	284.0	293.0	296.0	291.0	283.0	272.0	263.0	262.0
62.5°	241.0	241.0	250.0	263.0	271.0	275.0	270.0	261.0	251.0	241.0	242.0
65°	216.0	215.0	224.0	236.0	245.0	248.0	243.0	235.0	225.0	216.0	216.0
67.5°	190.0	190.0	197.0	207.0	215.0	218.0	213.0	206.0	198.0	190.0	190.0
70°	162.0	162.0	167.0	177.0	184.0	186.0	183.0	176.0	169.0	162.0	162.0
72.5°	134.0	133.0	138.0	146.0	152.0	154.0	151.0	147.0	139.0	134.0	134.0
75°	106.0	105.0	108.0	115.0	120.0	122.0	119.0	116.0	110.0	106.0	106.0
77.5°	79.0	78.0	81.0	87.0	90.0	91.0	89.0	87.0	82.0	79.0	79.0
80°	54.0	53.0	55.0	59.0	62.0	62.0	61.0	60.0	56.0	54.0	55.0
82.5°	32.0	31.0	33.0	36.0	38.0	37.0	37.0	36.0	33.0	32.0	32.0
85°	14.0	13.0	14.0	16.0	18.0	17.0	17.0	17.0	15.0	14.0	14.0
87.5°	2.0	2.0	2.0	3.0	4.0	3.0	3.0	3.0	2.0	2.0	2.0
90°	2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8
92.5°	2.8	2.8	2.8	3.9	4.4	3.9	4.4	3.3	3.3	2.8	2.8
95°	3.3	3.3	3.9	5.0	6.1	6.6	6.6	3.9	3.9	3.3	3.3
97.5°	4.4	5.0	5.0	6.1	10.0	18.3	11.1	5.5	5.5	5.0	4.4
100°	7.2	7.7	7.7	13.8	29.3	39.3	28.2	14.4	10.5	7.7	7.7
102.5°	23.2	24.3	29.9	44.8	66.4	60.3	50.9	48.1	33.2	26.6	25.5
105°	59.2	58.7	63.1	74.7	93.0	91.3	84.1	76.4	65.8	60.9	60.9
107.5°	78.0	78.0	81.9	91.9	105.7	123.4	125.1	99.0	86.9	81.3	80.8
110°	88.0	88.0	91.3	99.6	117.9	142.8	141.6	122.3	107.3	100.2	99.0

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REPORT NUMBER: P832885
CATALOG NUMBER: TTN-D0-750-U-WQ-SG-UPL1

CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	90.2	90.7	95.2	107.9	127.8	*138.9*	133.9	126.2	119.5	114.0	112.9
115°	93.5	93.5	98.5	110.7	121.7	*126.2*	120.6	114.5	110.1	107.9	109.0
117.5°	92.4	94.1	95.2	101.8	109.0	*112.3*	109.6	101.3	97.9	96.8	95.2
120°	85.8	85.8	86.9	90.2	94.1	*95.7*	94.6	89.1	86.3	85.8	84.7
122.5°	76.4	76.9	76.4	78.0	80.8	*82.4*	81.3	76.9	75.8	75.8	74.7
125°	67.0	67.0	66.4	67.5	69.2	*68.6*	69.2	67.0	66.4	66.4	65.8
127.5°	60.3	59.8	58.7	59.2	59.8	*59.8*	60.3	58.1	58.7	59.2	58.7
130°	53.7	53.7	52.6	52.6	52.6	*51.5*	52.6	51.5	52.0	52.6	53.1
132.5°	47.6	47.6	45.9	45.4	45.4	*45.4*	45.9	45.4	46.5	47.6	47.6
135°	42.6	42.6	40.9	41.5	41.5	*40.9*	41.5	40.9	42.1	42.6	42.6
137.5°	38.7	38.7	37.6	37.6	37.6	*37.1*	37.6	37.6	38.2	39.3	39.8
140°	35.4	35.4	34.9	34.9	34.3	*34.9*	34.9	34.9	35.4	36.0	36.0
142.5°	33.8	33.2	32.6	32.1	32.6	*32.6*	32.6	32.1	32.6	33.8	33.8
145°	31.0	31.0	30.4	30.4	30.4	*31.0*	30.4	30.4	31.0	31.0	31.5
147.5°	29.3	29.3	28.8	29.3	29.3	*29.3*	29.3	28.8	29.3	29.3	29.9
150°	28.8	28.2	27.7	28.2	28.2	*27.7*	27.7	27.7	27.7	28.2	28.2
152.5°	27.1	27.1	26.6	27.1	26.6	*26.6*	26.6	26.6	26.6	27.1	27.7
155°	26.0	26.0	25.5	26.0	26.0	*26.0*	26.0	26.0	26.0	26.0	26.0
157.5°	24.9	25.5	24.9	24.9	24.9	*24.9*	24.9	24.9	24.9	25.5	25.5
160°	24.3	24.3	24.3	24.3	23.8	*23.8*	23.8	24.3	24.3	24.3	24.9
162.5°	23.8	23.8	23.8	23.8	23.2	*23.2*	23.2	23.2	23.8	23.8	24.3
165°	23.8	23.2	23.2	23.2	22.7	*22.7*	22.7	22.7	23.2	23.8	23.2
167.5°	22.7	22.7	22.7	22.7	22.7	*22.1*	22.1	22.7	22.7	22.7	23.2
170°	22.7	22.7	22.1	22.1	22.1	*22.1*	22.1	22.1	22.1	22.1	22.7
172.5°	22.7	22.7	22.7	22.7	22.1	*22.1*	22.1	22.1	22.1	22.7	22.7
175°	22.7	22.7	22.7	22.7	22.1	*22.1*	22.1	22.7	22.7	22.7	22.1
177.5°	22.7	22.7	22.7	22.7	22.1	*22.7*	22.7	22.7	22.7	22.7	22.7
180°	22.7	22.7	22.7	22.7	22.7	*22.7*	22.7	22.7	22.7	22.7	22.7

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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: SP1-2411-284-3

Test Date: 11/21/2024

Luminaire Tested: TTN-D0-750-U-WQ

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

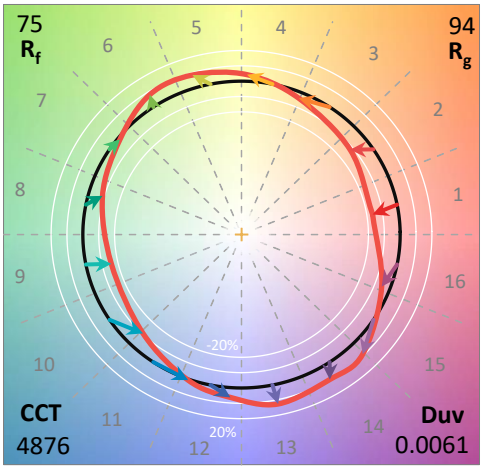
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2411-284-3
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	MCGRAW EDISON
Catalog Number:	**TTN-D0-750-U-WQ**
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 5000K, 70 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K):	4876
CIE u':	0.2086
CIE v':	0.4932
Duv:	0.0061
CIE x:	0.3502
CIE y:	0.3680
CIE z:	0.2818
Peak Wavelength (nm):	451
Dominant Wavelength (nm):	569
Purity:	15.51324
Rf:	74.6
Rg:	94.4

CRI (Ra):	72.6
R1:	69.5
R2:	77.0
R3:	82.2
R4:	72.6
R5:	69.3
R6:	67.6
R7:	83.7
R8:	58.6
R9:	-24.6
R10:	44.8
R11:	68.2
R12:	36.1
R13:	70.5
R14:	89.9
R15:	63.1



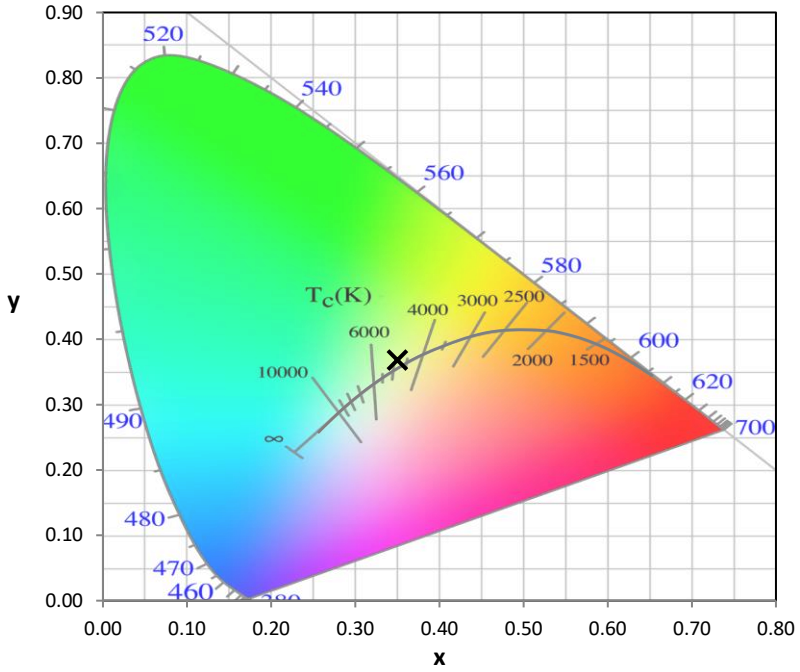
Test Conditions

Stabilization Time:	51M
Operation Time:	1H 51M
Sphere Temperature (°C):	24.9

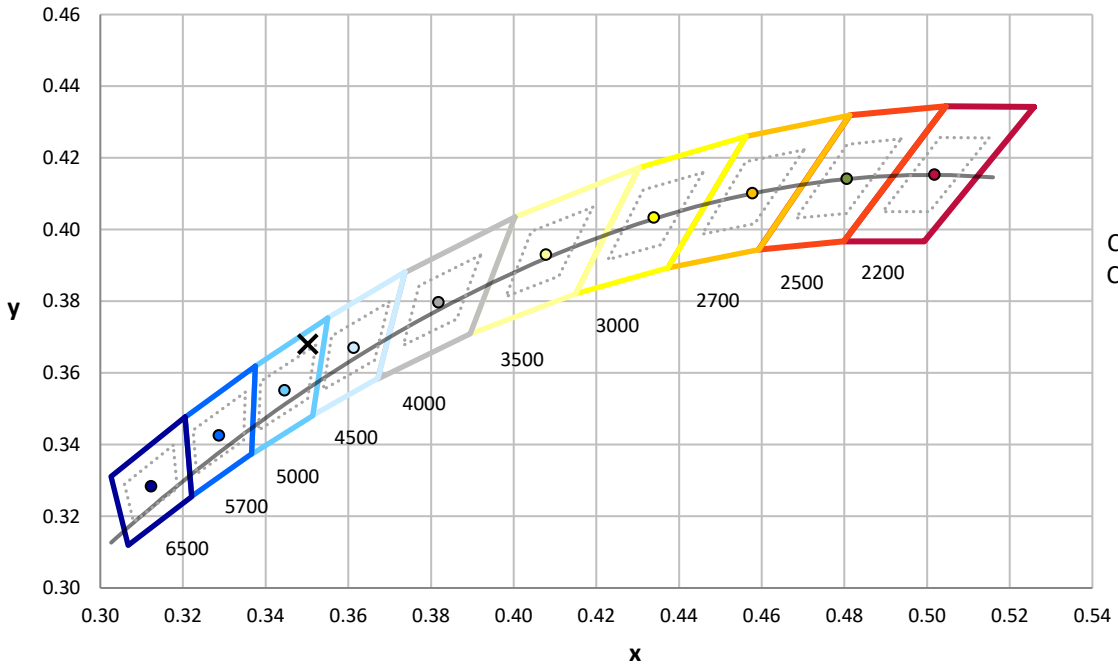
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-3

CIE 1931 Chromaticity Diagram



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

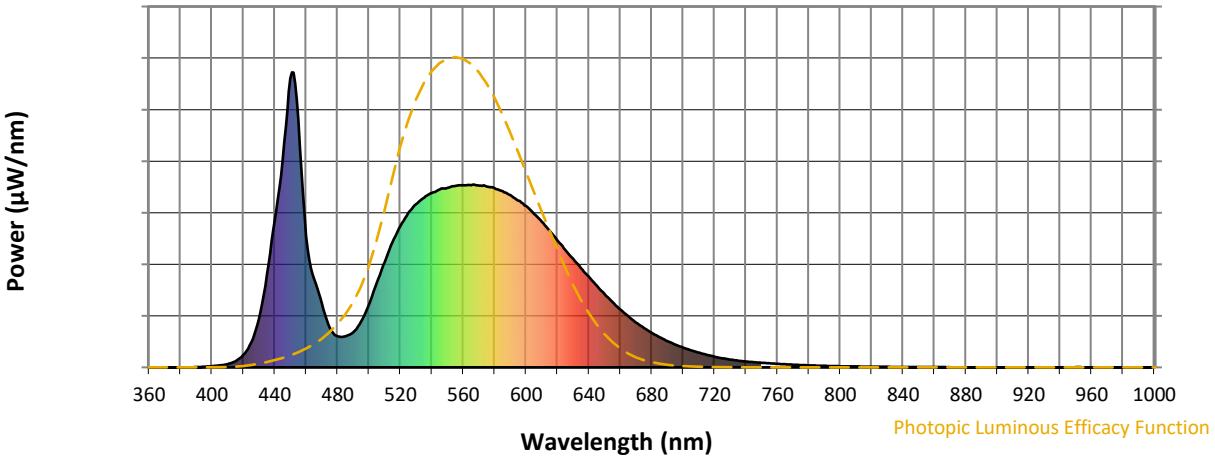


CCT = 4876K
CIE x = 0.3502
CIE y = 0.3680
Duv = 0.0061

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2411-284-3

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	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

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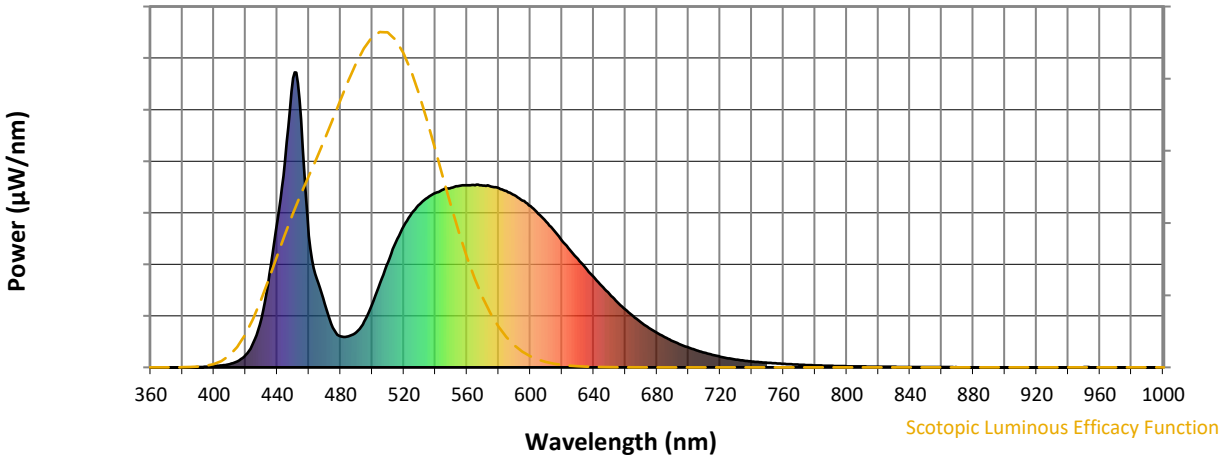
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.74**

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	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

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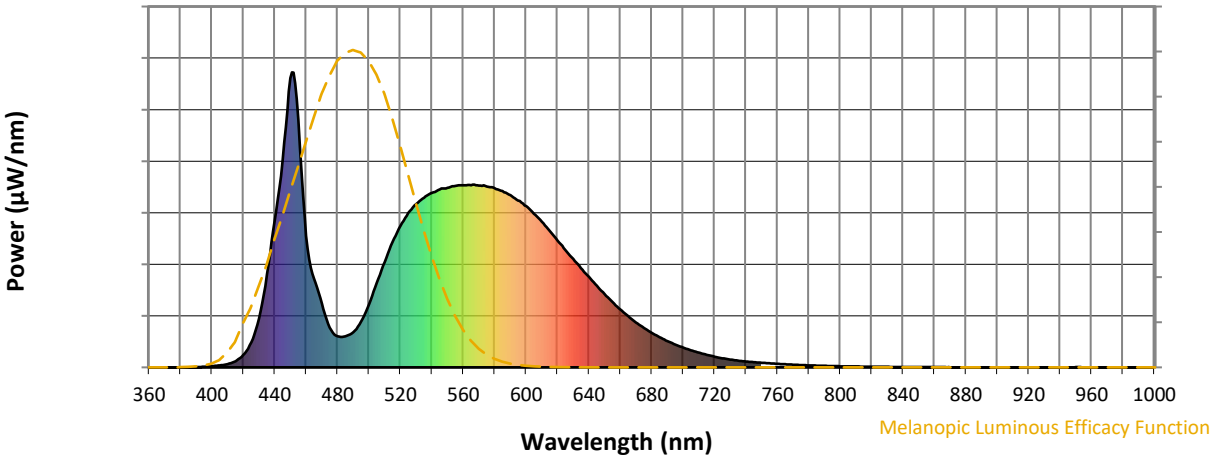
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 3.51**

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	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	NR	630	368	NR	760	12	NR	890	0	NR
375	0	NR	505	286	NR	635	336	NR	765	11	NR	895	0	NR
380	0	NR	510	357	NR	640	306	NR	770	9	NR	900	0	NR
385	0	NR	515	425	NR	645	276	NR	775	8	NR	905	0	NR
390	1	NR	520	480	NR	650	248	NR	780	7	NR	910	0	NR
395	2	NR	525	523	NR	655	221	NR	785	6	NR	915	0	NR
400	4	NR	530	554	NR	660	196	NR	790	5	NR	920	0	NR
405	7	NR	535	575	NR	665	173	NR	795	4	NR	925	0	NR
410	11	NR	540	592	NR	670	152	NR	800	4	NR	930	0	NR
415	21	NR	545	603	NR	675	133	NR	805	3	NR	935	0	NR
420	42	NR	550	609	NR	680	117	NR	810	3	NR	940	0	NR
425	85	NR	555	615	NR	685	102	NR	815	3	NR	945	0	NR
430	165	NR	560	617	NR	690	89	NR	820	2	NR	950	1	NR
435	316	NR	565	617	NR	695	77	NR	825	2	NR	955	0	NR
440	497	NR	570	616	NR	700	67	NR	830	2	NR	960	0	NR
445	702	NR	575	613	NR	705	58	NR	835	2	NR	965	0	NR
450	981	NR	580	607	NR	710	50	NR	840	1	NR	970	0	NR
455	840	NR	585	598	NR	715	43	NR	845	1	NR	975	0	NR
460	446	NR	590	583	NR	720	36	NR	850	1	NR	980	0	NR
465	300	NR	595	566	NR	725	31	NR	855	1	NR	985	0	NR
470	215	NR	600	546	NR	730	26	NR	860	1	NR	990	0	NR
475	135	NR	605	521	NR	735	23	NR	865	1	NR	995	0	NR
480	105	NR	610	494	NR	740	20	NR	870	1	NR	1000	0	NR
485	106	NR	615	463	NR	745	18	NR	875	0	NR			

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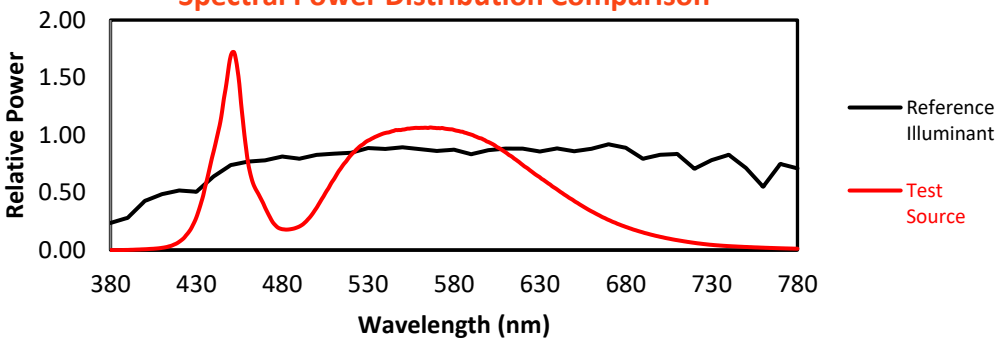
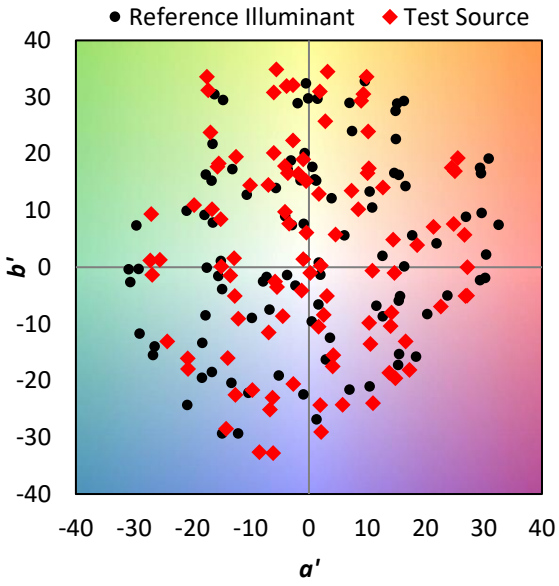
Summary

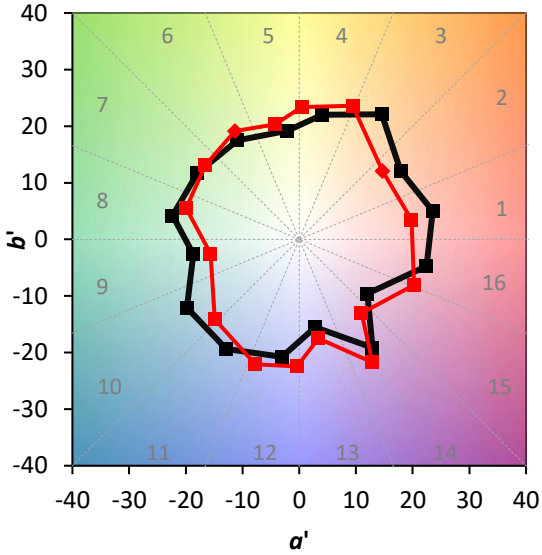
R_f = 74.6
R_g = 94.4
CIE R_a = 72.6
R_9 = -24.6

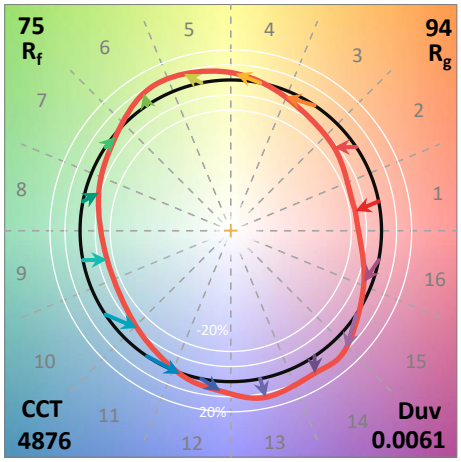
Spectral Power Distribution Comparison

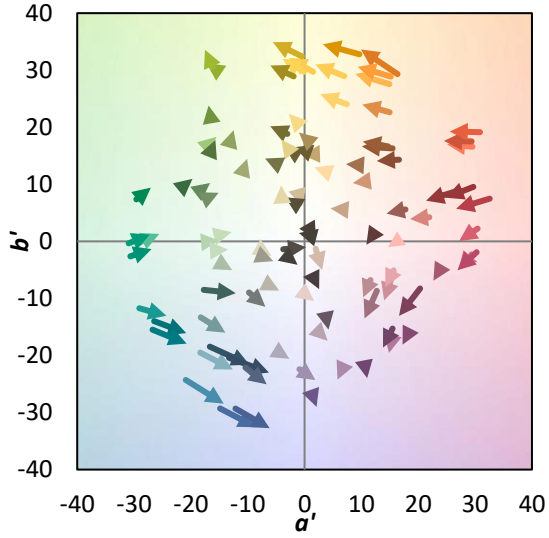


Color Vector Graphics









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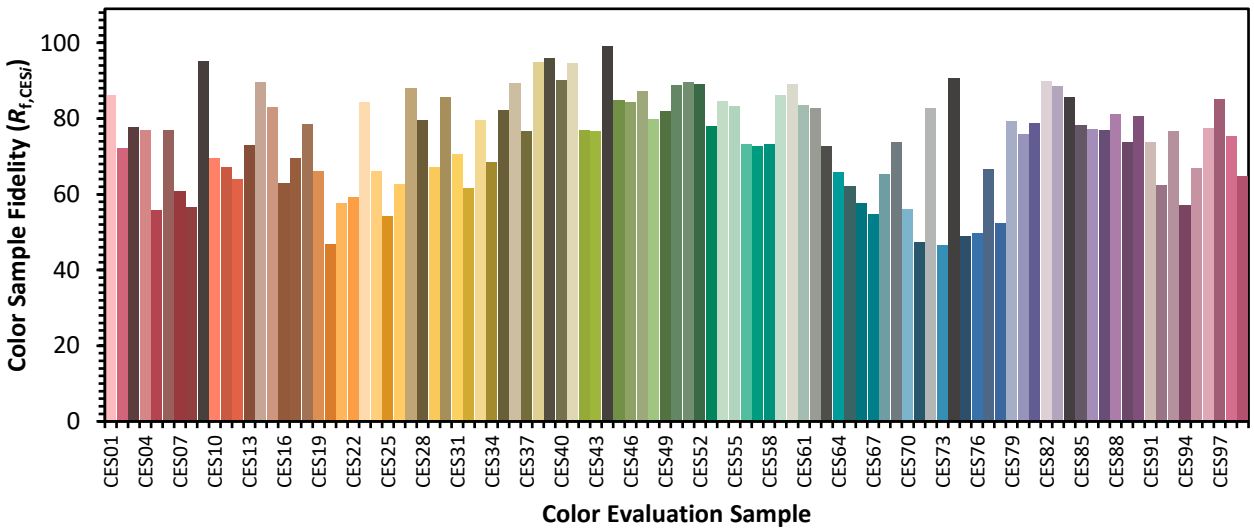
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 63	CES51 = 90	CES76 = 50
CES02 = 59	CES27 = 88	CES52 = 89	CES77 = 67
CES03 = 30	CES28 = 80	CES53 = 78	CES78 = 52
CES04 = 69	CES29 = 67	CES54 = 85	CES79 = 79
CES05 = 46	CES30 = 86	CES55 = 83	CES80 = 76
CES06 = 50	CES31 = 70	CES56 = 73	CES81 = 79
CES07 = 39	CES32 = 62	CES57 = 73	CES82 = 90
CES08 = 38	CES33 = 80	CES58 = 73	CES83 = 89
CES09 = 29	CES34 = 69	CES59 = 86	CES84 = 86
CES10 = 72	CES35 = 82	CES60 = 89	CES85 = 78
CES11 = 55	CES36 = 89	CES61 = 83	CES86 = 77
CES12 = 61	CES37 = 77	CES62 = 83	CES87 = 77
CES13 = 41	CES38 = 95	CES63 = 73	CES88 = 81
CES14 = 74	CES39 = 96	CES64 = 66	CES89 = 74
CES15 = 70	CES40 = 90	CES65 = 62	CES90 = 81
CES16 = 46	CES41 = 95	CES66 = 58	CES91 = 74
CES17 = 49	CES42 = 77	CES67 = 55	CES92 = 62
CES18 = 55	CES43 = 77	CES68 = 65	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 57
CES20 = 64	CES45 = 85	CES70 = 56	CES95 = 67
CES21 = 85	CES46 = 84	CES71 = 47	CES96 = 77
CES22 = 77	CES47 = 87	CES72 = 83	CES97 = 85
CES23 = 91	CES48 = 80	CES73 = 46	CES98 = 75
CES24 = 90	CES49 = 82	CES74 = 91	CES99 = 65
CES25 = 71	CES50 = 89	CES75 = 49	



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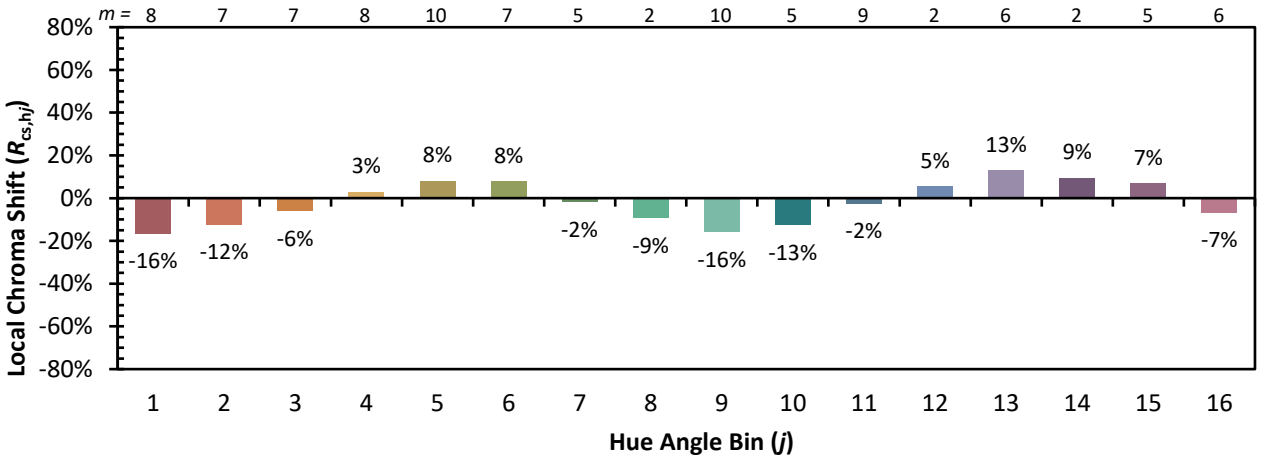
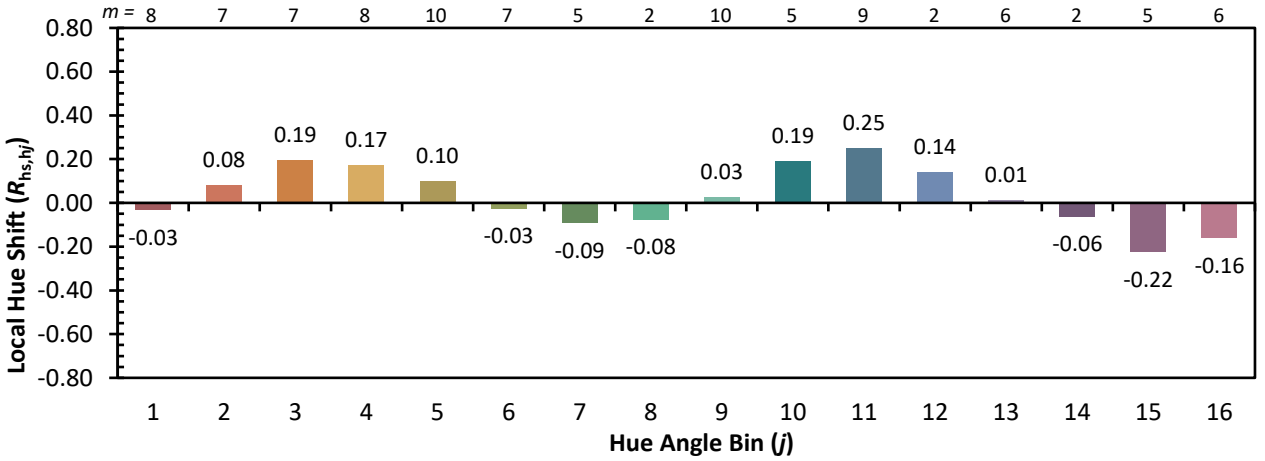
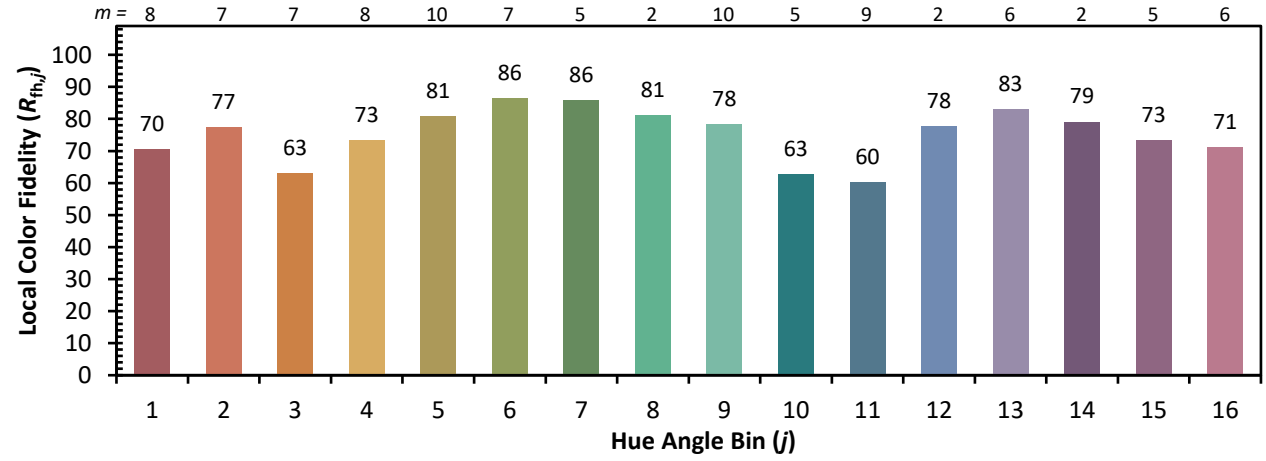
Color Rendition by Hue-Angle Bin







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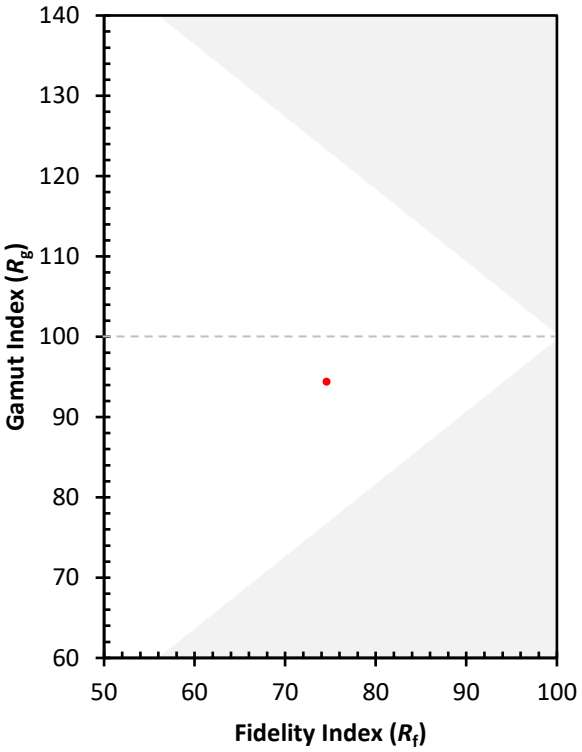
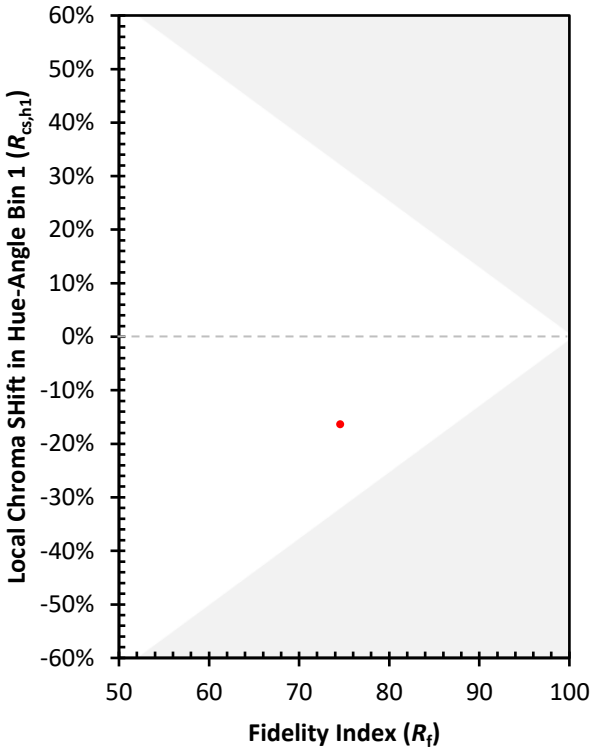
Measure Comparisons





(END OF REPORT)