

Signify Classified - Internal  
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: P833250

Luminaire Tested: **TTN-D1-750-U-WQ-UPL3**

Issue Date: 5/15/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P833250  
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-D1-750-U-WQ-UPL3  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
5000K, 70 CRI LEDS AND WIDE DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

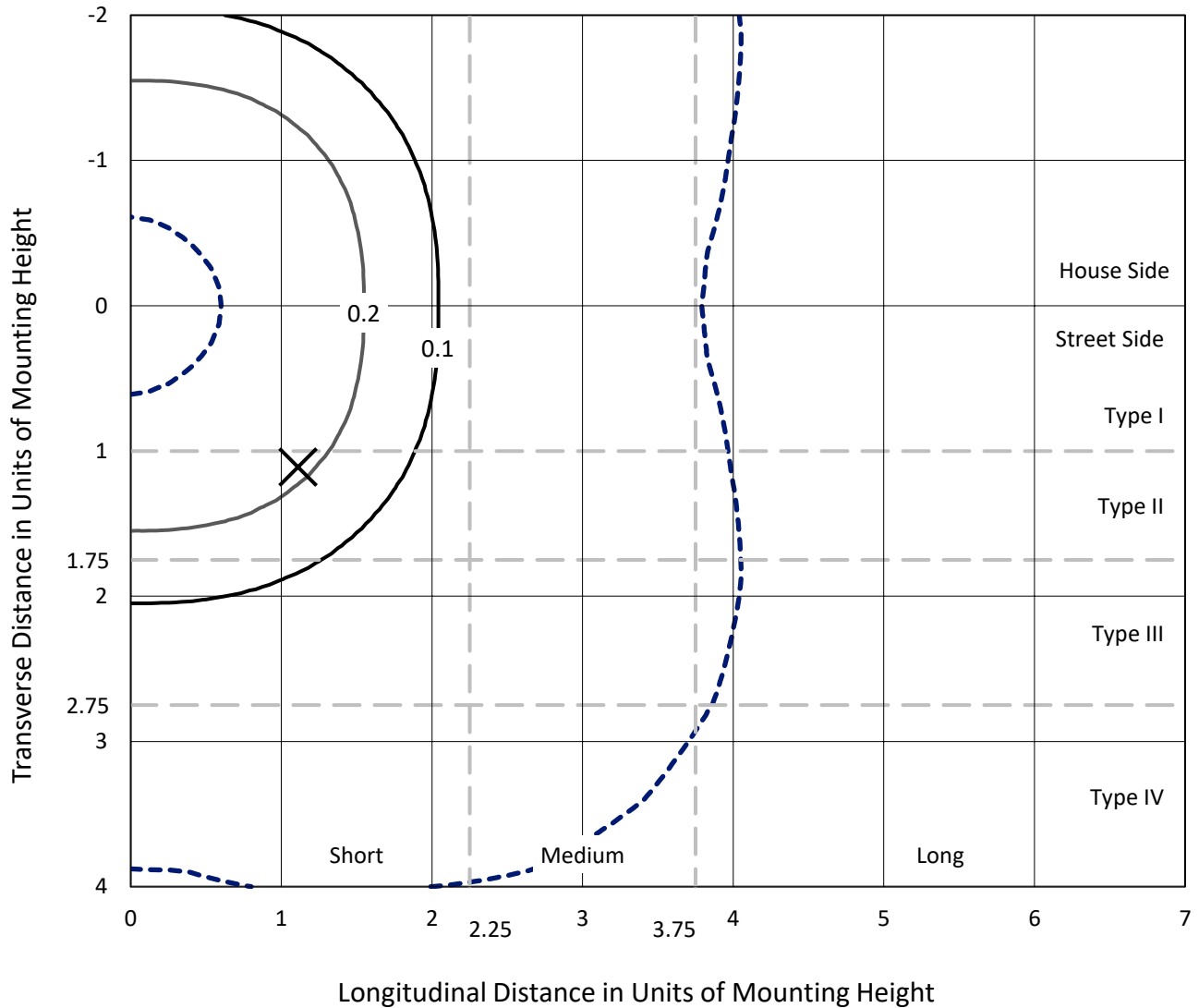
Lumens per Lamp: N/A  
Luminaire Lumens: 4173.6 lumens  
Efficiency: N/A  
Efficacy: 125.0 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')  
IES Classification: Type V - Short  
BUG Rating: B2 - U4 - G1  
  
Input Watts (W): 33.4  
Input Voltage (V): NR  
Input Current (Ain): 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



REPORT NUMBER: P833250  
 CATALOG NUMBER: TTN-D1-750-U-WQ-UPL3

### Iso-Footcandle Lines of Horizontal Illumination

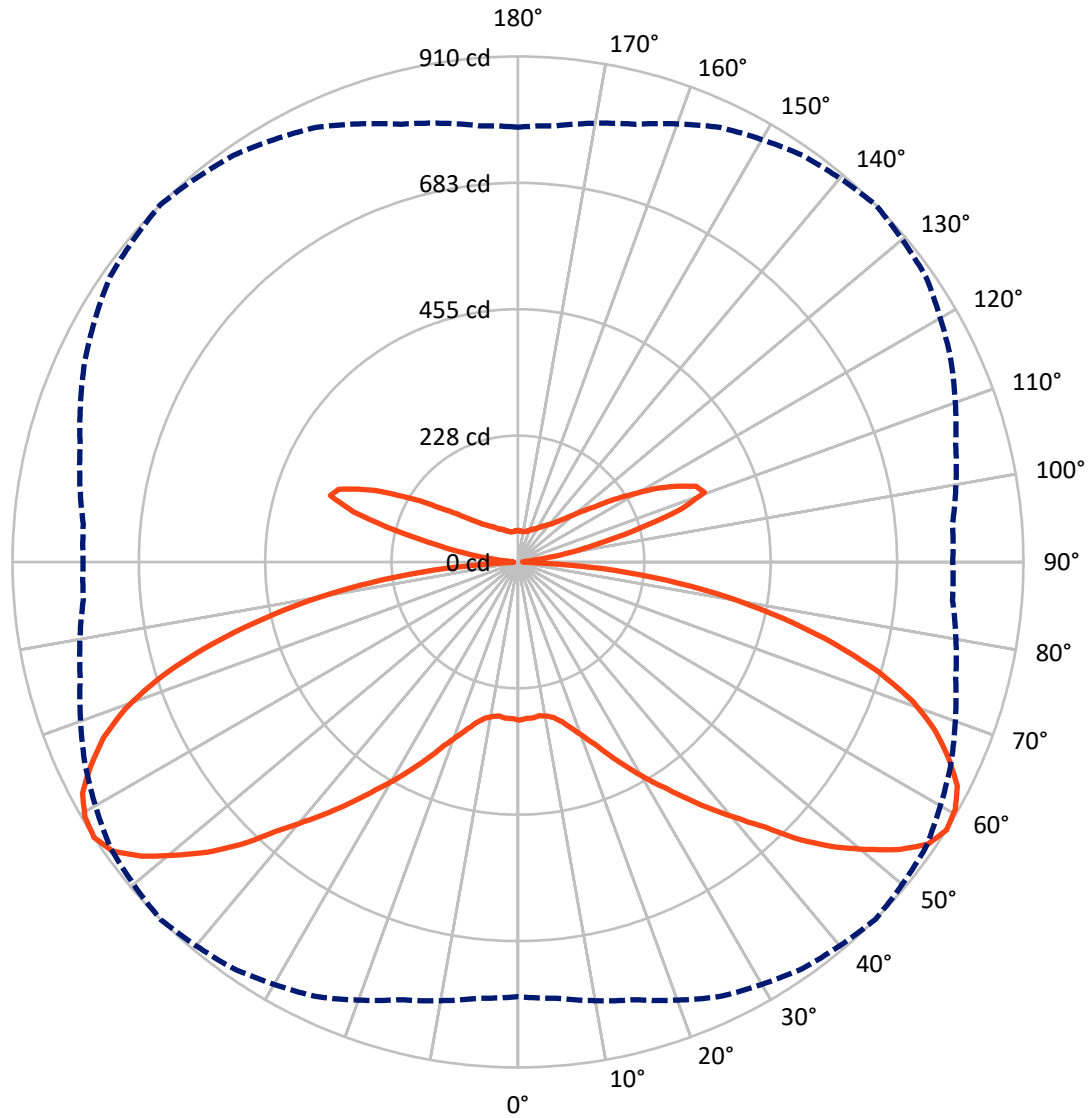
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.5 fc  
 Type V - Short - N/A

REPORT NUMBER: P833250  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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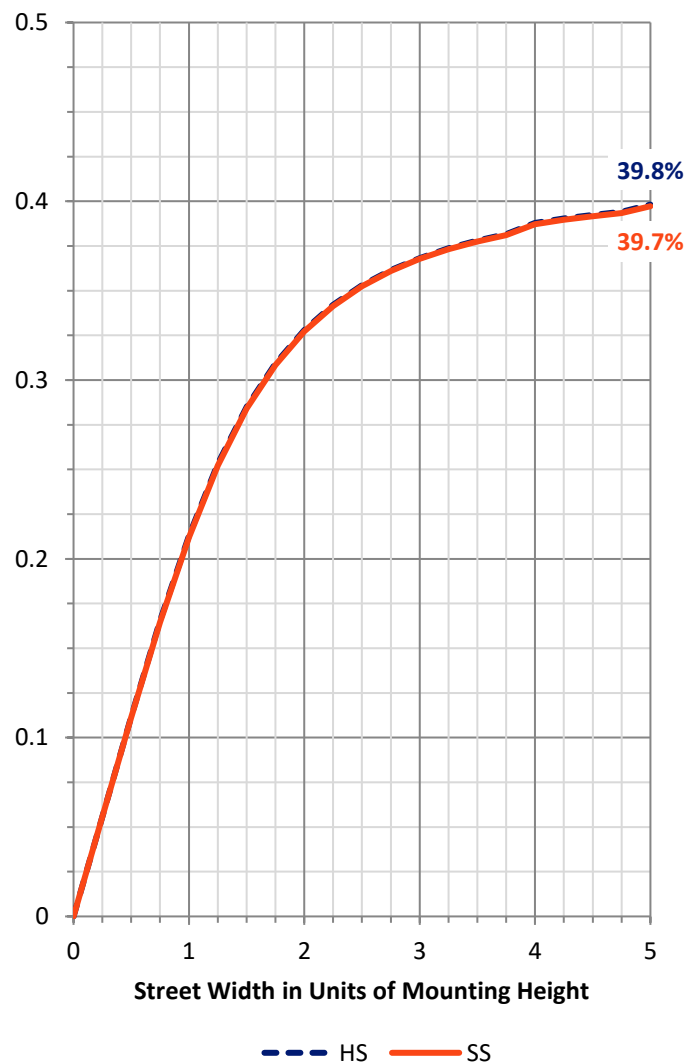
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1681.1	405.8	2086.8
	% Fixture	40.3	9.7	50.0
<b>Street Side</b>	Lumens	1681.1	405.8	2086.8
	% Fixture	40.3	9.7	50.0
<b>Total</b>	Lumens	3362.1	811.5	4173.6
	% Fixture	80.6	19.4	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.8	0.6
10°-20°	85.5	2.0
20°-30°	179.3	4.3
30°-40°	325.3	7.8
40°-50°	530.3	12.7
50°-60°	742.2	17.8
60°-70°	774.9	18.6
70°-80°	553.6	13.3
80°-90°	144.3	3.5
90°-100°	18.1	0.4
100°-110°	184.1	4.4
110°-120°	269.1	6.4
120°-130°	156.2	3.7
130°-140°	82.7	2.0
140°-150°	49.1	1.2
150°-160°	30.3	0.7
160°-170°	16.5	0.4
170°-180°	5.4	0.1
0°-90°	3362.1	80.6
0°-180°	4173.6	100.0

**Coefficient of Utilization**



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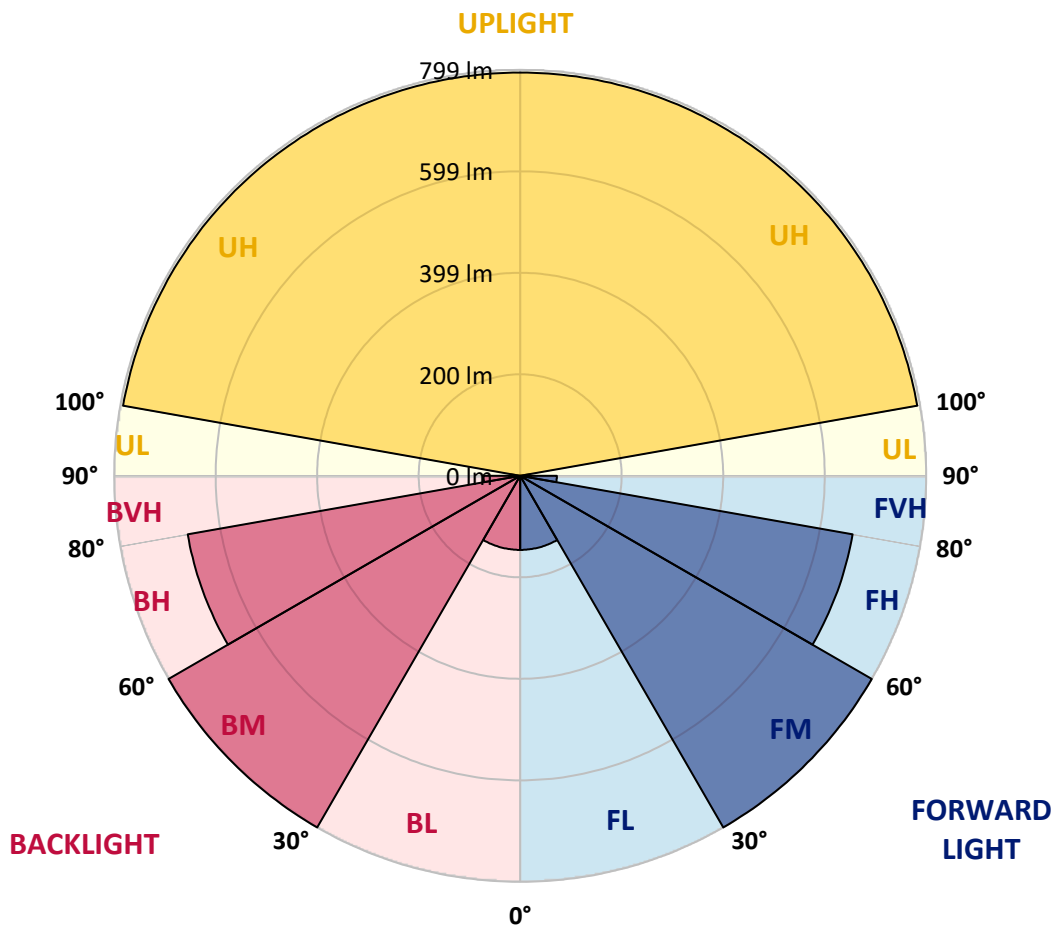
CATALOG NUMBER: TTN-D1-750-U-WQ-UPL3

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	145.8	3.5			
FM (30°-60°)	798.9	19.1			
FH (60°-80°)	664.2	15.9			G1/1800
FVH (80°-90°)	72.2	1.7			G1/100
BL (0°-30°)	145.8	3.5	B1/500		
BM (30°-60°)	798.9	19.1	B1/1000		
BH (60°-80°)	664.2	15.9	B2/1000		G1/1800
BVH (80°-90°)	72.2	1.7			G1/100
UL (90°-100°)	18.1	0.4		U2/50	
UH (100°-180°)	793.4	19.0		U4/1000	

**BUG Rating: B2-U4-G1**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	284.9	284.9	284.9	284.9	284.9	284.9	284.9	284.9	284.9	284.9	284.9
2.5°	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1
5°	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1	282.1
7.5°	276.6	276.6	279.4	279.4	279.4	279.4	279.4	279.4	279.4	279.4	279.4
10°	276.6	276.6	279.4	279.4	282.1	282.1	282.1	279.4	279.4	276.6	276.6
12.5°	282.1	282.1	282.1	284.9	287.7	287.7	287.7	284.9	284.9	282.1	282.1
15°	290.4	293.2	293.2	296.0	298.7	298.7	298.7	296.0	296.0	293.2	293.2
17.5°	307.0	307.0	307.0	309.8	312.6	315.3	315.3	309.8	309.8	307.0	309.8
20°	323.6	326.4	326.4	329.1	331.9	334.7	331.9	329.1	326.4	326.4	326.4
22.5°	348.5	348.5	351.3	351.3	356.8	356.8	356.8	351.3	351.3	351.3	351.3
25°	376.2	376.2	378.9	381.7	387.2	387.2	384.5	378.9	378.9	378.9	381.7
27.5°	409.4	409.4	412.1	412.1	417.7	417.7	414.9	412.1	412.1	412.1	414.9
30°	439.8	439.8	445.3	448.1	450.8	450.8	450.8	445.3	445.3	442.5	442.5
32.5°	467.4	470.2	473.0	481.3	486.8	484.0	486.8	481.3	475.7	473.0	473.0
35°	497.9	500.6	506.2	514.5	522.8	522.8	522.8	514.5	508.9	503.4	506.2
37.5°	533.8	533.8	542.1	550.4	561.5	564.2	561.5	553.2	544.9	539.4	539.4
40°	572.5	572.5	580.8	589.1	603.0	605.7	603.0	591.9	580.8	578.1	578.1
42.5°	611.3	611.3	622.3	630.6	647.2	652.8	647.2	633.4	622.3	614.0	616.8
45°	652.8	655.5	669.4	686.0	705.3	713.6	705.3	688.7	672.1	655.5	655.5
47.5°	699.8	699.8	716.4	735.7	757.9	766.2	755.1	738.5	716.4	702.5	702.5
50°	730.2	733.0	755.1	780.0	807.7	813.2	804.9	780.0	755.1	735.7	733.0
52.5°	760.6	763.4	788.3	824.2	851.9	860.2	849.1	824.2	788.3	763.4	763.4
55°	780.0	785.5	813.2	851.9	882.3	896.2	879.6	851.9	810.4	782.8	780.0
57.5°	782.8	788.3	815.9	863.0	893.4	910.0	896.2	860.2	815.9	785.5	782.8
60°	777.2	780.0	807.7	857.4	893.4	904.5	893.4	854.7	804.9	780.0	774.5
62.5°	763.4	768.9	796.6	838.1	879.6	887.9	876.8	835.3	793.8	763.4	757.9
65°	719.1	724.7	766.2	807.7	843.6	851.9	843.6	807.7	763.4	719.1	713.6
67.5°	669.4	672.1	713.6	763.4	796.6	810.4	796.6	766.2	710.8	669.4	663.8
70°	616.8	619.6	652.8	705.3	738.5	755.1	741.3	708.1	650.0	614.0	611.3
72.5°	556.0	556.0	589.1	630.6	663.8	680.4	669.4	627.9	583.6	547.7	542.1
75°	473.0	475.7	511.7	542.1	578.1	589.1	578.1	544.9	503.4	467.4	461.9
77.5°	387.2	390.0	420.4	445.3	478.5	486.8	478.5	450.8	412.1	381.7	378.9
80°	293.2	296.0	320.8	343.0	370.6	381.7	373.4	345.7	315.3	287.7	279.4
82.5°	190.8	193.6	218.5	235.1	260.0	268.3	262.8	237.9	213.0	185.3	182.6
85°	85.7	88.5	110.6	124.5	143.8	152.1	146.6	124.5	105.1	80.2	74.7
87.5°	8.3	8.3	8.3	8.3	8.3	11.1	11.1	8.3	8.3	8.3	8.3
90°	6.9	6.9	8.3	8.3	8.3	8.3	8.3	8.3	8.3	6.9	6.9
92.5°	6.9	6.9	6.9	9.7	11.1	9.7	11.1	8.3	8.3	6.9	6.9
95°	8.3	8.3	9.7	12.5	15.3	16.7	16.7	9.7	9.7	8.3	8.3
97.5°	11.1	12.5	12.5	15.3	25.0	45.8	27.8	13.9	13.9	12.5	11.1
100°	18.0	19.4	19.4	34.7	73.6	98.6	70.8	36.1	26.4	19.4	19.4
102.5°	58.3	61.1	75.0	112.5	166.6	151.3	127.7	120.8	83.3	66.6	63.9
105°	148.6	147.2	158.3	187.4	233.3	229.1	211.0	191.6	165.2	152.7	152.7
107.5°	195.8	195.8	205.5	230.5	265.2	309.6	313.8	248.5	218.0	204.1	202.7
110°	220.8	220.8	229.1	249.9	295.7	358.2	355.4	306.8	269.4	251.3	248.5



REPORT NUMBER: P833250  
 CATALOG NUMBER: TTN-D1-750-U-WQ-UPL3

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	226.3	227.7	238.8	270.7	320.7	348.5	336.0	316.6	299.9	286.0	283.2
115°	234.6	234.6	247.1	277.7	305.5	316.6	302.7	287.4	276.3	270.7	273.5
117.5°	231.9	236.0	238.8	255.5	273.5	281.8	274.9	254.1	245.8	243.0	238.8
120°	215.2	215.2	218.0	226.3	236.0	240.2	237.4	223.5	216.6	215.2	212.4
122.5°	191.6	193.0	191.6	195.8	202.7	206.9	204.1	193.0	190.2	190.2	187.4
125°	168.0	168.0	166.6	169.4	173.6	172.2	173.6	168.0	166.6	166.6	165.2
127.5°	151.3	149.9	147.2	148.6	149.9	149.9	151.3	145.8	147.2	148.6	147.2
130°	134.7	134.7	131.9	131.9	131.9	129.1	131.9	129.1	130.5	131.9	133.3
132.5°	119.4	119.4	115.2	113.9	113.9	113.9	115.2	113.9	116.6	119.4	119.4
135°	106.9	106.9	102.7	104.1	104.1	102.7	104.1	102.7	105.5	106.9	106.9
137.5°	97.2	97.2	94.4	94.4	94.4	93.0	94.4	94.4	95.8	98.6	100.0
140°	88.9	88.9	87.5	87.5	86.1	87.5	87.5	87.5	88.9	90.2	90.2
142.5°	84.7	83.3	81.9	80.5	81.9	81.9	81.9	80.5	81.9	84.7	84.7
145°	77.8	77.8	76.4	76.4	76.4	77.8	76.4	76.4	77.8	77.8	79.1
147.5°	73.6	73.6	72.2	73.6	73.6	73.6	73.6	72.2	73.6	73.6	75.0
150°	72.2	70.8	69.4	70.8	70.8	69.4	69.4	69.4	69.4	70.8	70.8
152.5°	68.0	68.0	66.6	68.0	66.6	66.6	66.6	66.6	66.6	68.0	69.4
155°	65.3	65.3	63.9	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3
157.5°	62.5	63.9	62.5	62.5	62.5	62.5	62.5	62.5	62.5	63.9	63.9
160°	61.1	61.1	61.1	61.1	59.7	59.7	59.7	61.1	61.1	61.1	62.5
162.5°	59.7	59.7	59.7	59.7	58.3	58.3	58.3	58.3	59.7	59.7	61.1
165°	59.7	58.3	58.3	58.3	56.9	56.9	56.9	56.9	58.3	59.7	58.3
167.5°	56.9	56.9	56.9	56.9	56.9	55.5	55.5	56.9	56.9	56.9	58.3
170°	56.9	56.9	55.5	55.5	55.5	55.5	55.5	55.5	55.5	55.5	56.9
172.5°	56.9	56.9	56.9	56.9	55.5	55.5	55.5	55.5	55.5	56.9	56.9
175°	56.9	56.9	56.9	56.9	55.5	55.5	55.5	56.9	56.9	56.9	55.5
177.5°	56.9	56.9	56.9	56.9	55.5	56.9	56.9	56.9	56.9	56.9	56.9
180°	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9



Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
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: SP1-2411-284-3

Test Date: 11/21/2024

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

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

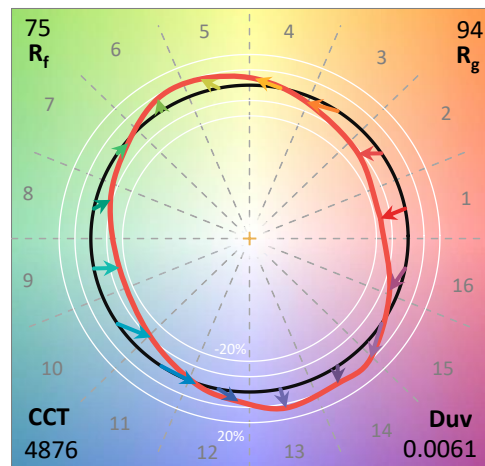
**Test Information**

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



**Test Conditions**

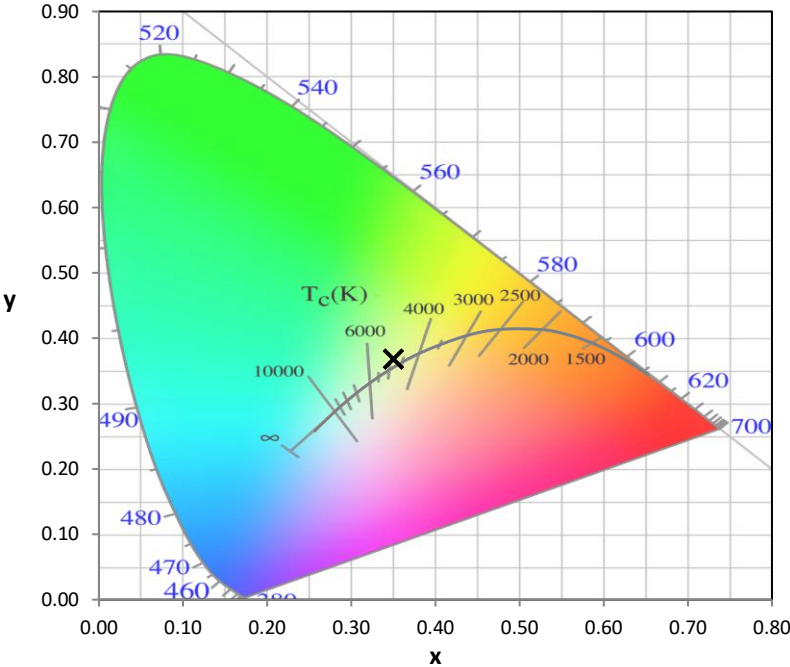
Stabilization Time: 51M  
 Operation Time: 1H 51M  
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-3

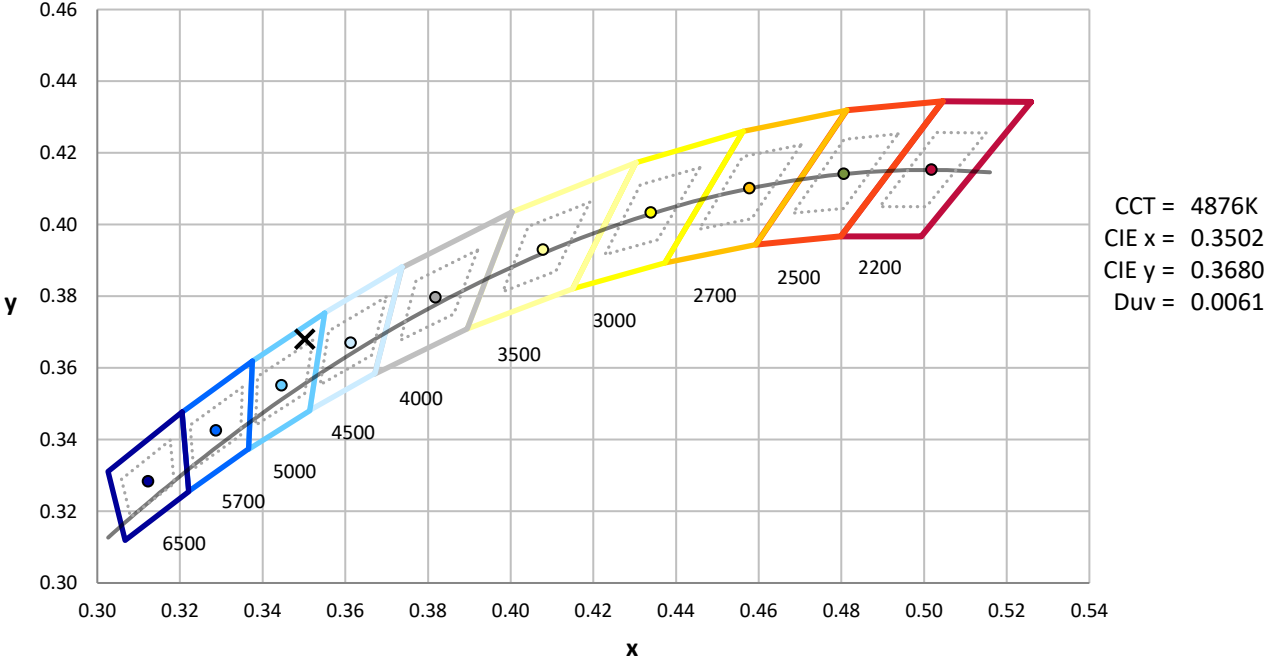
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



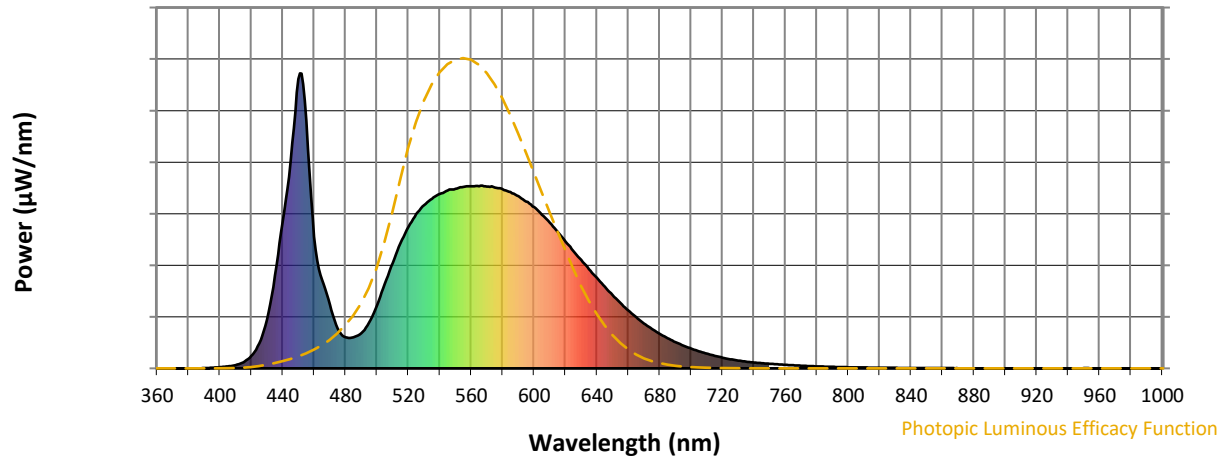
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 7-step quadrangle

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**Photopic Flux vs. Wavelength**

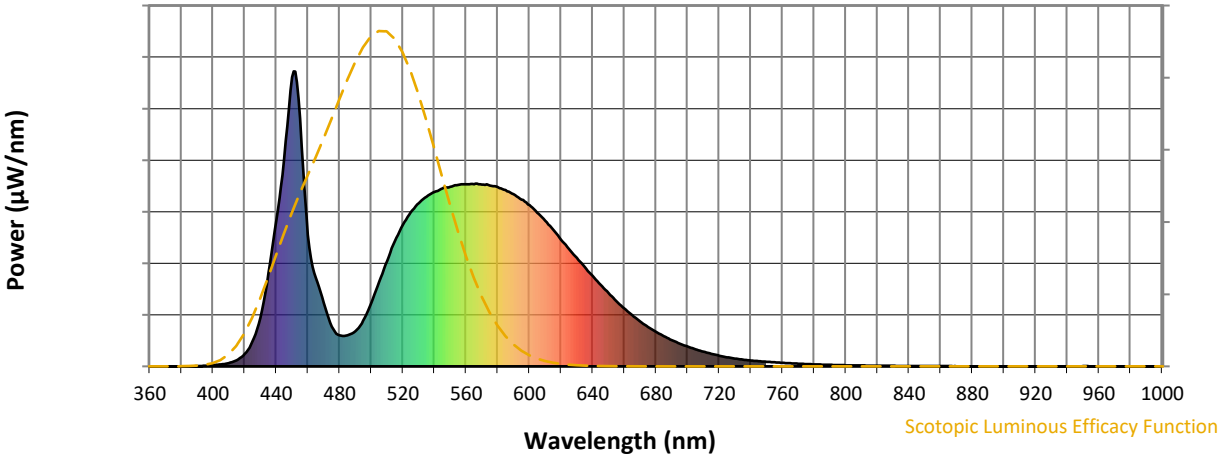


**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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**

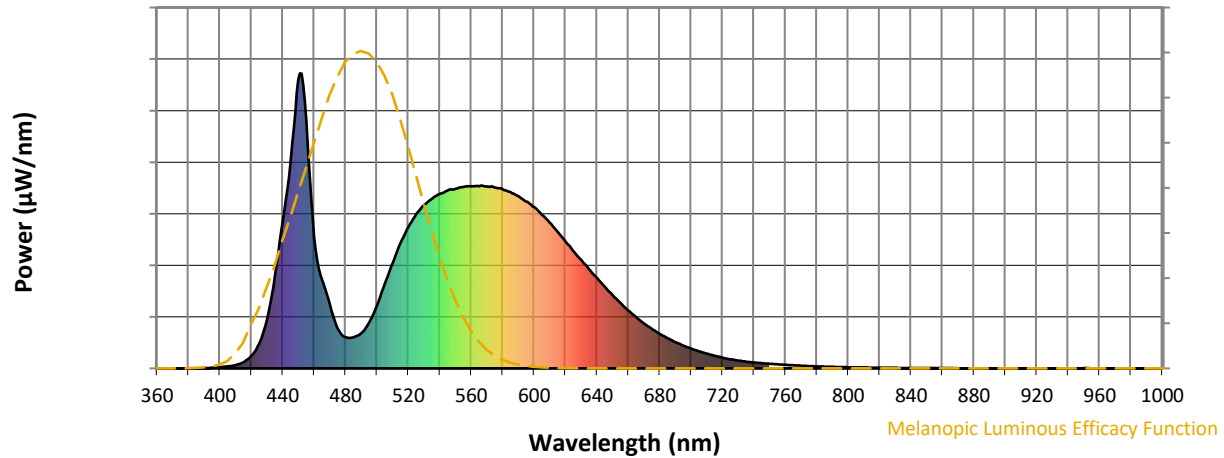


**Scotopic Lumens: NR S/P: 1.74**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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



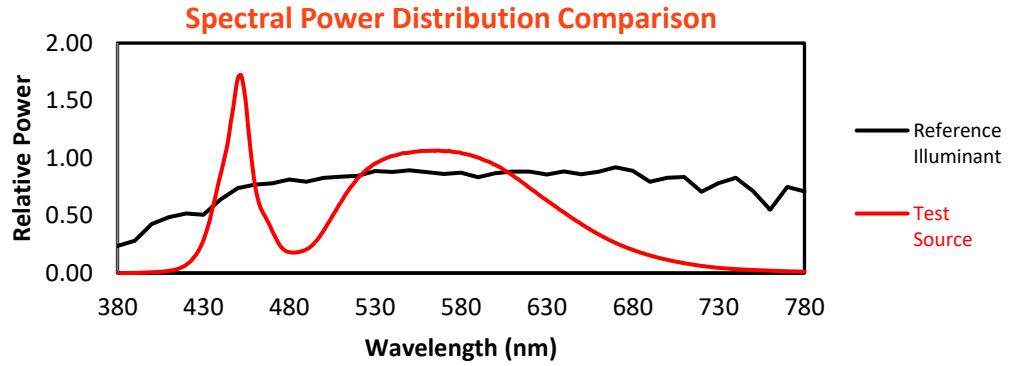
Melanopic Lumens: NR

M/P: 3.51

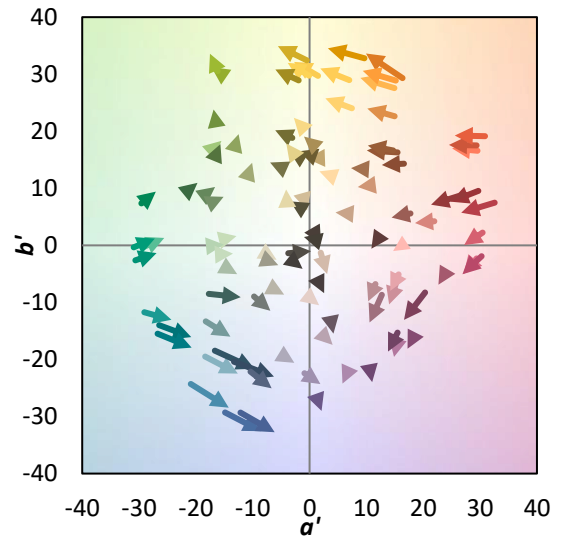
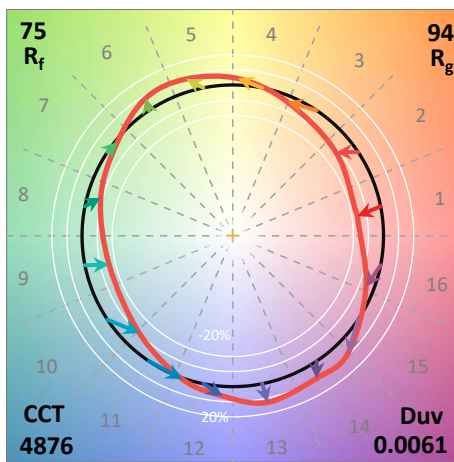
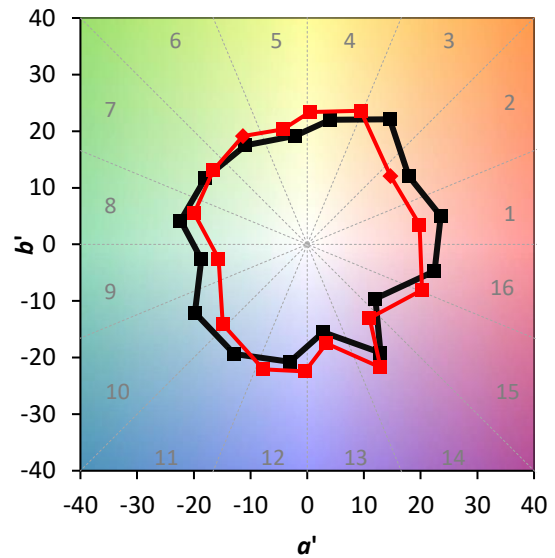
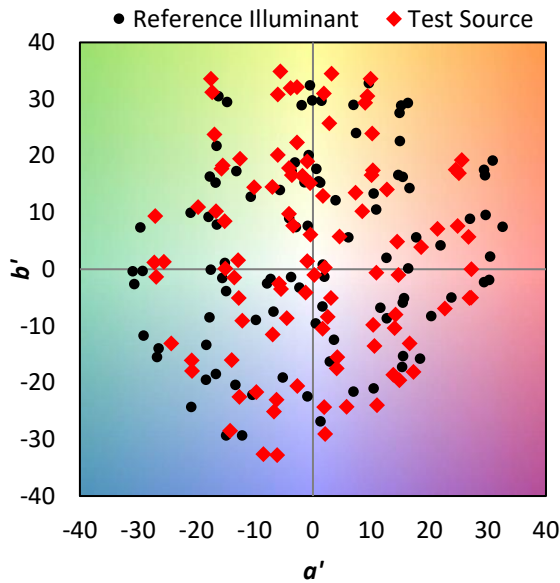
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	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			

**Summary**

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



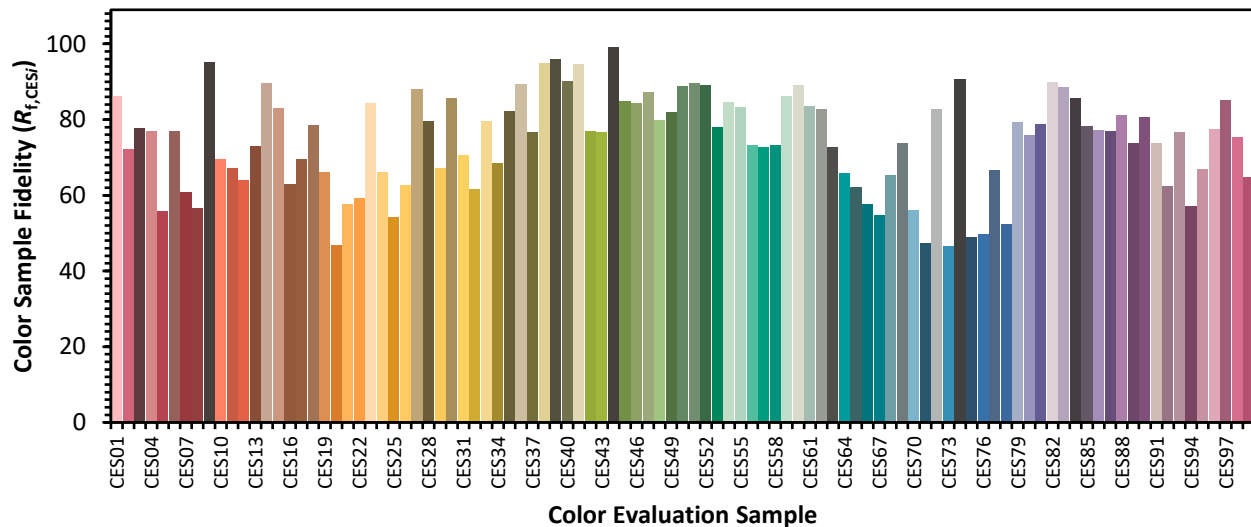
**Color Vector Graphics**



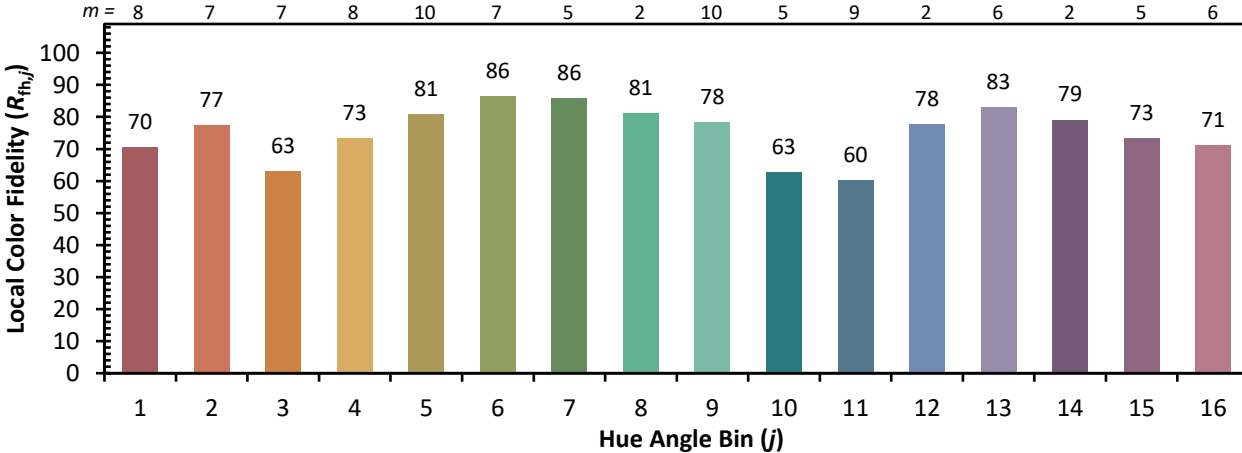
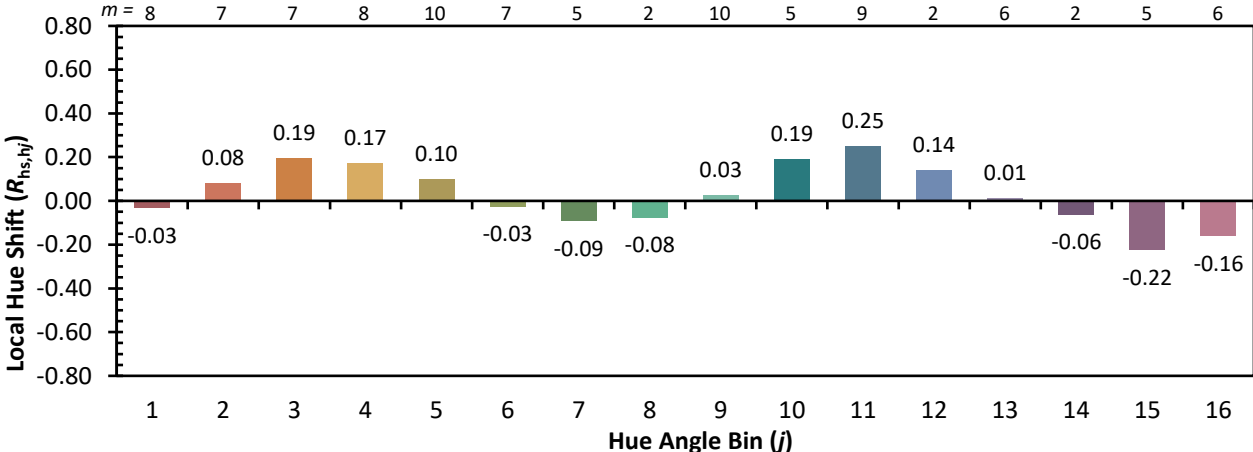
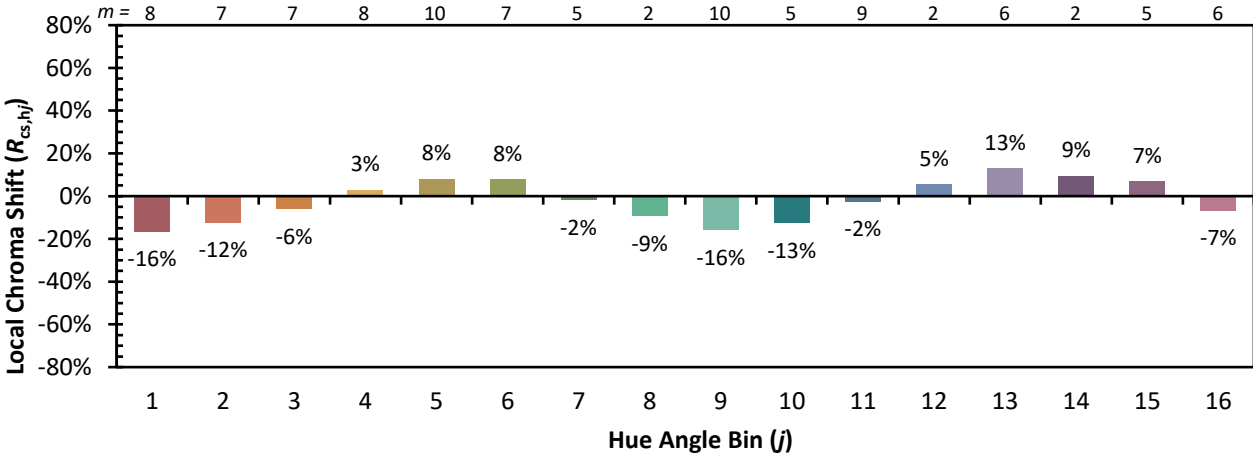


Individual Sample Fidelity Index ( $R_{f,i}$ )

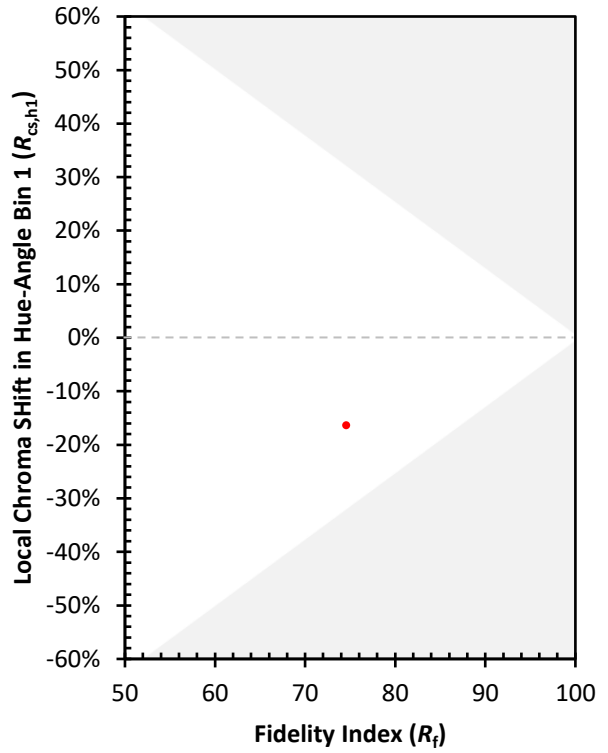
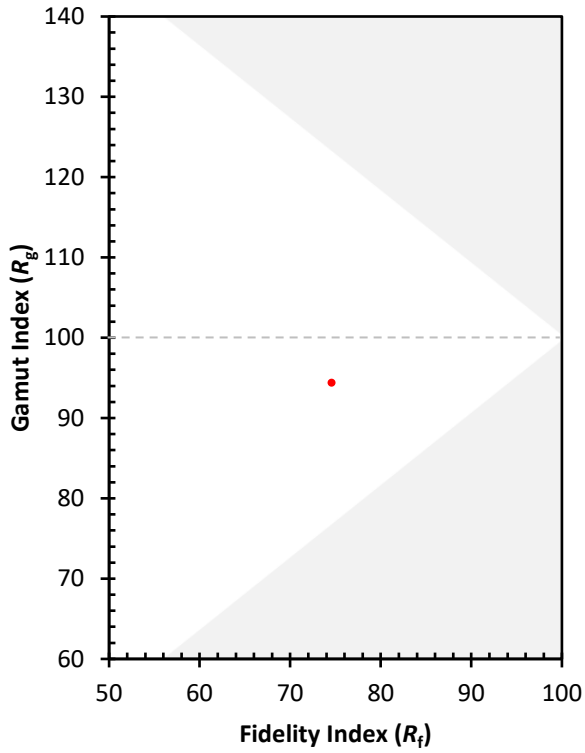
CES01 = 85	CES26 = 63	CES51 = 90	CES76 = 50
CES02 = 59	CES27 = 88	CES52 = 89	CES77 = 67
CES03 = 30	CES28 = 80	CES53 = 78	CES78 = 52
CES04 = 69	CES29 = 67	CES54 = 85	CES79 = 79
CES05 = 46	CES30 = 86	CES55 = 83	CES80 = 76
CES06 = 50	CES31 = 70	CES56 = 73	CES81 = 79
CES07 = 39	CES32 = 62	CES57 = 73	CES82 = 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	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)