

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: P823454

Luminaire Tested: **TTN-D3-750-U-RW**

Issue Date: 4/16/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P823454  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 4/16/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TTN-D3-750-U-RW  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE  
5000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

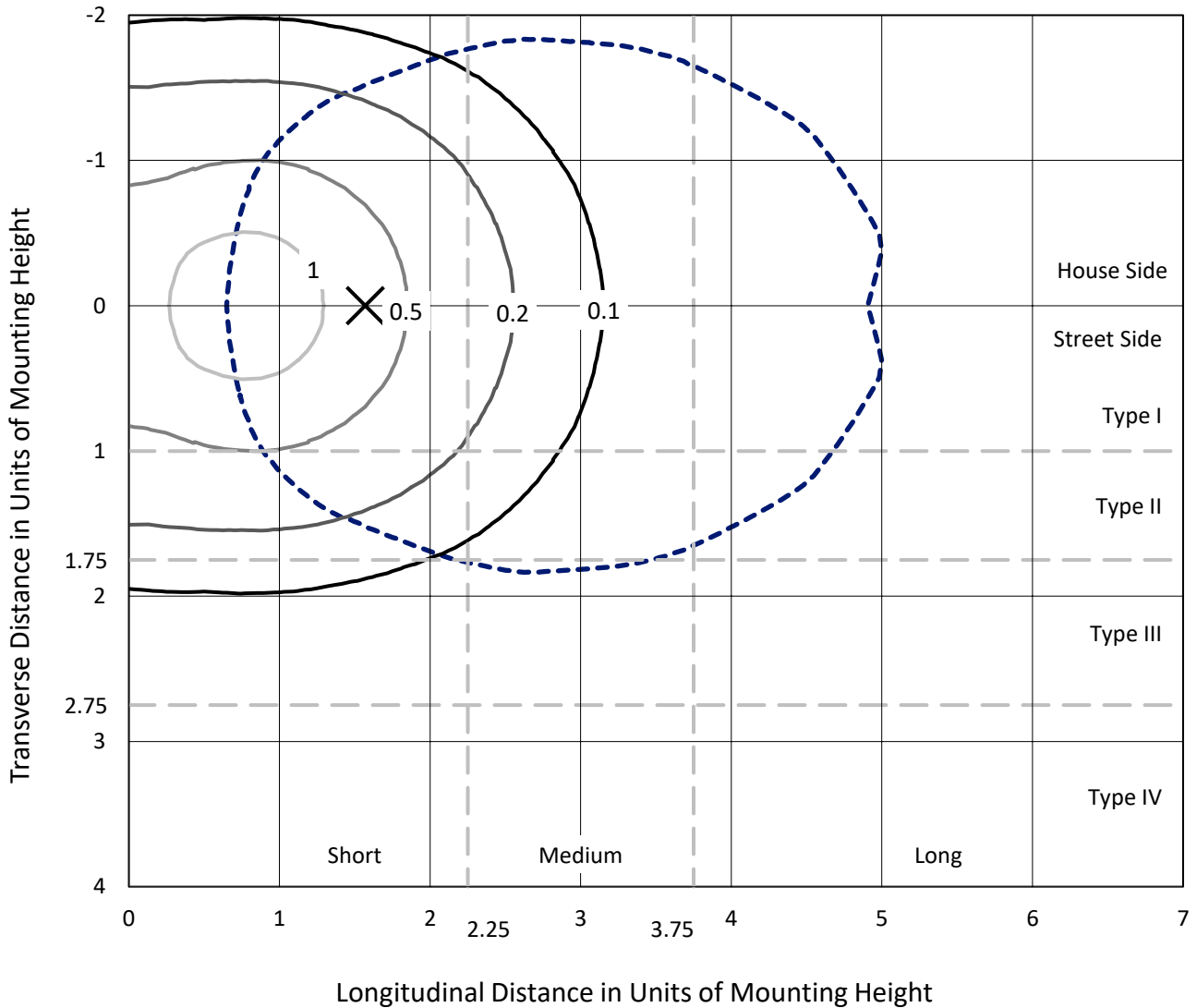
Lumens per Lamp: N/A  
Luminaire Lumens: 6861 lumens  
Efficiency: N/A  
Efficacy: 115.9 lumens/watt  
Luminous Opening: Circular (Dia: 0.71' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 59.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage 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: P823454  
 CATALOG NUMBER: TTN-D3-750-U-RW

### Iso-Footcandle Lines of Horizontal Illumination

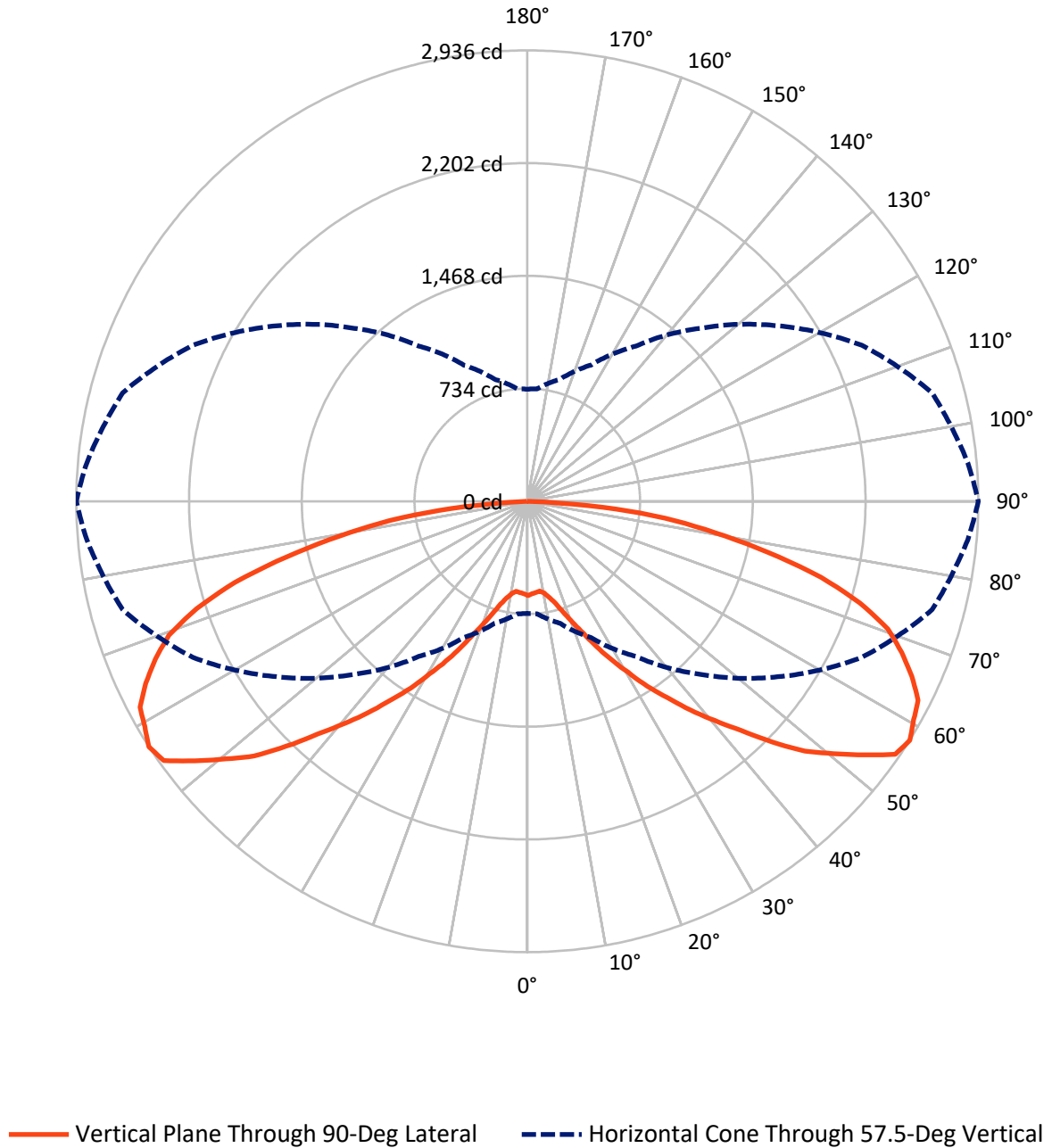
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc  
 Type II - Short - N/A

REPORT NUMBER: P823454  
CATALOG NUMBER: TTN-D3-750-U-RW

### Luminous Intensity Polar Plot



REPORT NUMBER: P823454  
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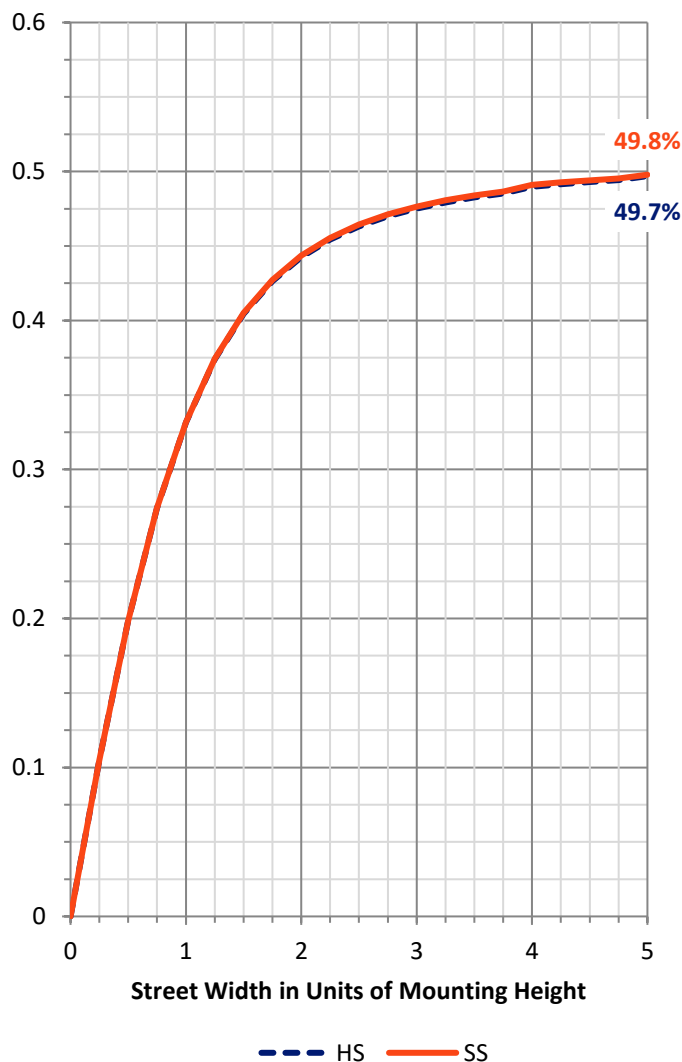
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3430.5	0.0	3430.5
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	3430.5	0.0	3430.5
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	6861.0	0.0	6861.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.5	0.8
10°-20°	184.0	2.7
20°-30°	383.9	5.6
30°-40°	688.5	10.0
40°-50°	1100.1	16.0
50°-60°	1506.1	22.0
60°-70°	1553.5	22.6
70°-80°	1104.8	16.1
80°-90°	282.8	4.1
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°	6861.0	100.0
0°-180°	6861.0	100.0

**Coefficient of Utilization**

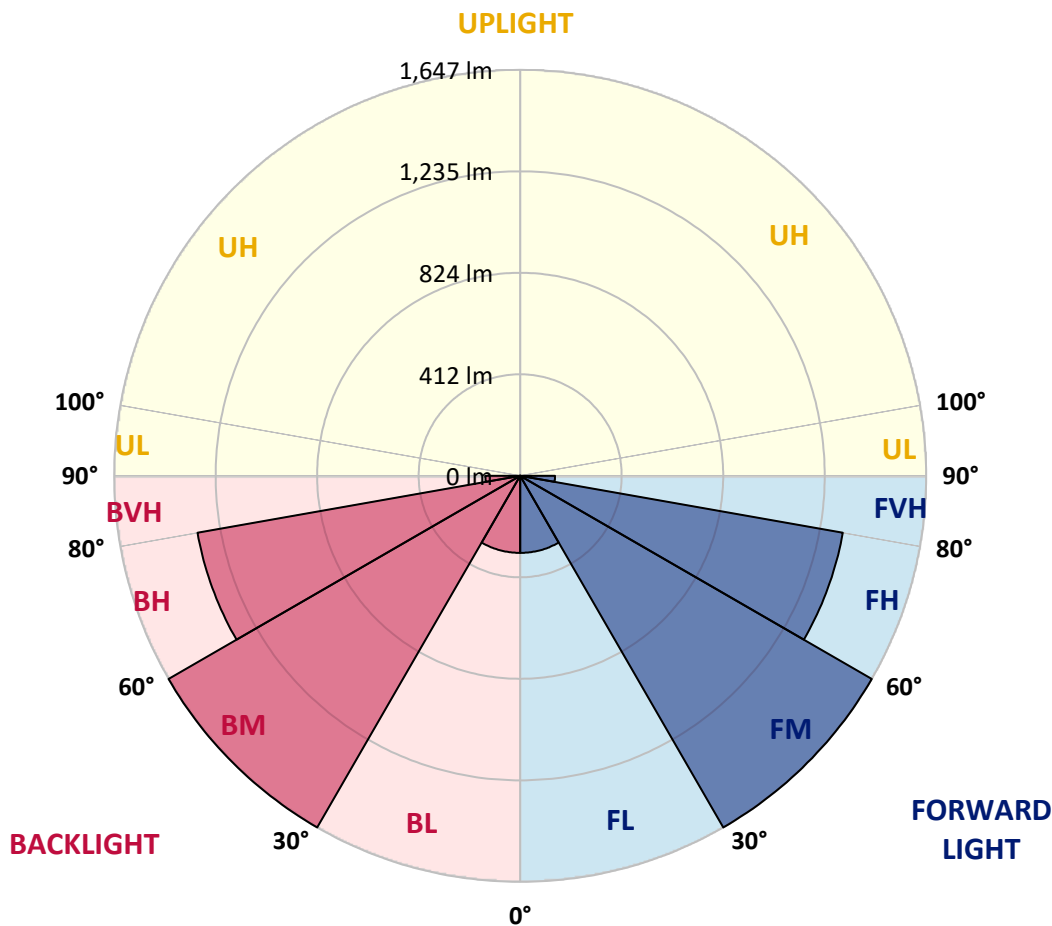


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 CATALOG NUMBER: TTN-D3-750-U-RW

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	312.7	4.6			
FM (30°-60°)	1647.3	24.0			
FH (60°-80°)	1329.1	19.4			G1/1800
FVH (80°-90°)	141.4	2.1			G2/225
BL (0°-30°)	312.7	4.6	B1/500		
BM (30°-60°)	1647.3	24.0	B2/2500		
BH (60°-80°)	1329.1	19.4	B3/2500		G3/2500
BVH (80°-90°)	141.4	2.1			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	613.7	613.7	613.7	613.7	613.7	613.7	613.7	613.7	613.7	613.7	613.7
2.5°	613.7	613.7	608.0	608.0	608.0	602.2	602.2	602.2	602.2	596.4	602.2
5°	613.7	613.7	613.7	613.7	608.0	602.2	602.2	602.2	596.4	596.4	596.4
7.5°	608.0	608.0	608.0	608.0	602.2	596.4	596.4	596.4	590.6	590.6	590.6
10°	602.2	608.0	602.2	602.2	596.4	596.4	602.2	602.2	608.0	608.0	608.0
12.5°	596.4	596.4	596.4	602.2	602.2	608.0	619.5	631.1	636.9	642.7	642.7
15°	596.4	596.4	602.2	608.0	619.5	631.1	648.5	665.9	677.4	689.0	689.0
17.5°	596.4	596.4	602.2	619.5	636.9	660.1	689.0	712.2	735.3	752.7	758.5
20°	596.4	596.4	608.0	631.1	665.9	700.6	741.1	775.9	810.6	839.6	839.6
22.5°	602.2	608.0	619.5	648.5	700.6	752.7	804.8	856.9	897.5	932.2	932.2
25°	613.7	613.7	631.1	677.4	741.1	810.6	885.9	949.6	1001.7	1048.0	1048.0
27.5°	619.5	625.3	648.5	706.4	787.4	874.3	978.5	1053.8	1123.3	1163.8	1169.6
30°	631.1	636.9	671.6	729.5	828.0	938.0	1059.6	1163.8	1239.1	1279.6	1291.2
32.5°	636.9	642.7	689.0	758.5	868.5	995.9	1134.8	1268.0	1372.2	1418.6	1435.9
35°	654.3	660.1	706.4	787.4	914.8	1059.6	1221.7	1378.0	1499.6	1557.5	1569.1
37.5°	671.6	677.4	723.8	816.4	961.1	1129.1	1314.3	1493.8	1632.8	1702.3	1725.4
40°	683.2	689.0	741.1	851.1	1013.3	1204.3	1418.6	1615.4	1771.7	1858.6	1876.0
42.5°	700.6	706.4	764.3	880.1	1059.6	1279.6	1528.6	1748.6	1916.5	2014.9	2038.1
45°	718.0	723.8	787.4	914.8	1111.7	1360.7	1638.6	1904.9	2096.0	2211.8	2235.0
47.5°	735.3	741.1	810.6	949.6	1163.8	1441.7	1754.4	2043.9	2275.5	2385.5	2431.8
50°	741.1	752.7	822.2	972.7	1198.5	1511.2	1852.8	2182.8	2426.0	2570.8	2582.4
52.5°	746.9	758.5	833.8	990.1	1227.5	1563.3	1933.9	2298.6	2582.4	2756.1	2744.5
55°	752.7	752.7	833.8	990.1	1239.1	1598.0	1991.8	2373.9	2686.6	2825.5	2906.6
57.5°	729.5	735.3	822.2	978.5	1233.3	1592.3	1991.8	2402.9	2727.1	2877.6	2935.5
60°	700.6	712.2	793.2	949.6	1210.1	1574.9	1980.2	2391.3	2744.5	2906.6	2889.2
62.5°	660.1	683.2	752.7	909.0	1175.4	1534.4	1962.8	2362.3	2703.9	2871.9	2854.5
65°	613.7	636.9	700.6	868.5	1100.1	1435.9	1870.2	2304.4	2593.9	2785.0	2750.3
67.5°	567.4	584.8	648.5	799.0	1013.3	1331.7	1748.6	2177.1	2437.6	2646.0	2628.7
70°	515.3	521.1	584.8	718.0	926.4	1227.5	1632.8	1997.6	2298.6	2455.0	2489.7
72.5°	451.6	451.6	515.3	631.1	822.2	1088.5	1476.5	1794.9	2078.6	2211.8	2263.9
75°	370.6	376.4	428.5	532.7	689.0	932.2	1256.4	1580.7	1818.1	1957.0	1974.4
77.5°	289.5	295.3	335.8	422.7	555.8	752.7	1036.4	1291.2	1517.0	1638.6	1603.8
80°	208.4	214.2	243.2	306.9	411.1	561.6	799.0	1024.8	1187.0	1285.4	1239.1
82.5°	127.4	133.2	150.5	191.1	260.6	364.8	544.3	712.2	839.6	920.6	903.2
85°	63.7	63.7	75.3	86.9	110.0	162.1	260.6	359.0	457.4	515.3	497.9
87.5°	11.6	17.4	17.4	17.4	17.4	11.6	17.4	17.4	17.4	29.0	11.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
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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



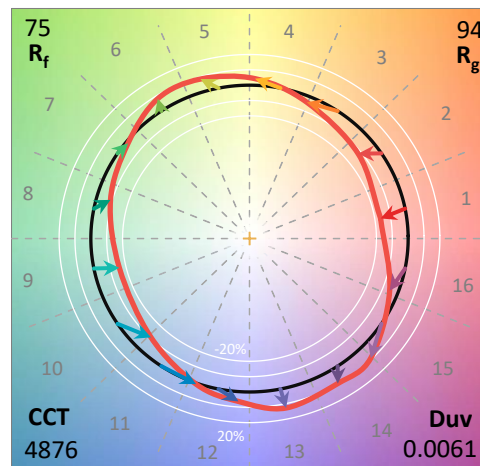
**Test Information**

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**

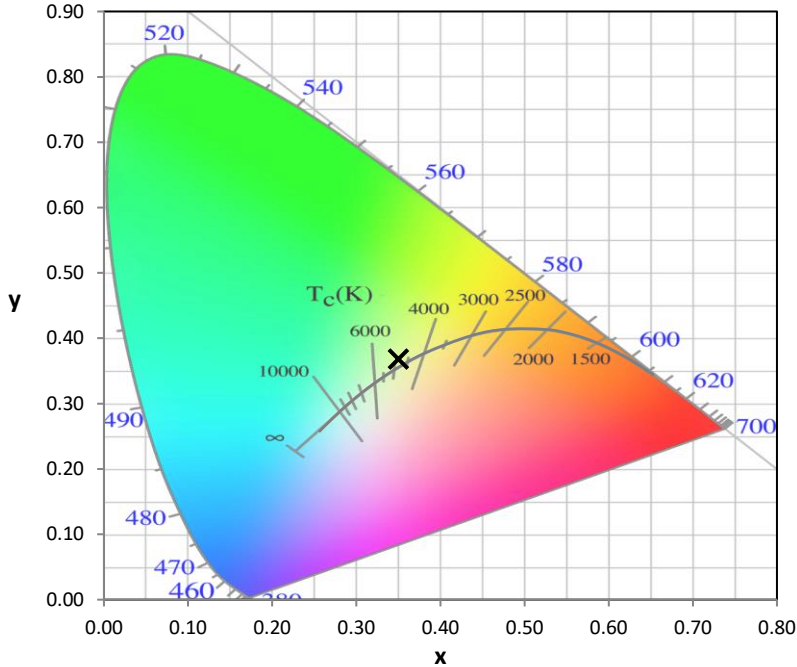
Stabilization Time: 51M  
 Operation Time: 1H 51M  
 Sphere Temperature (°C): 24.9

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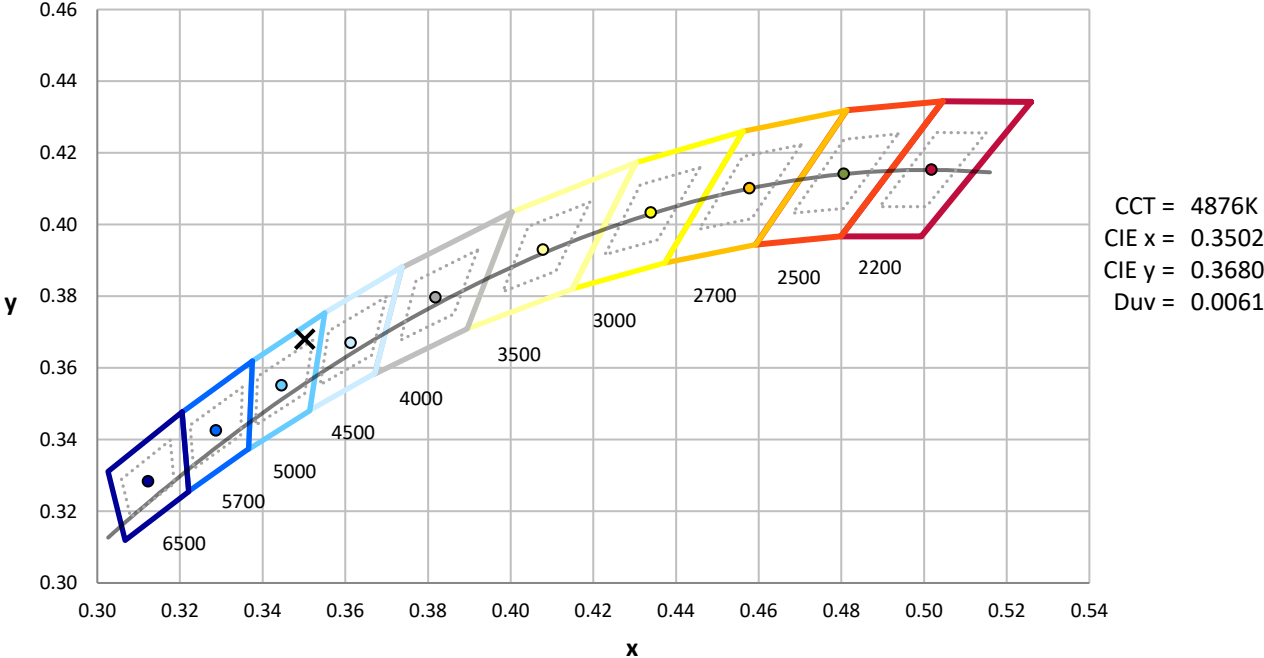
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



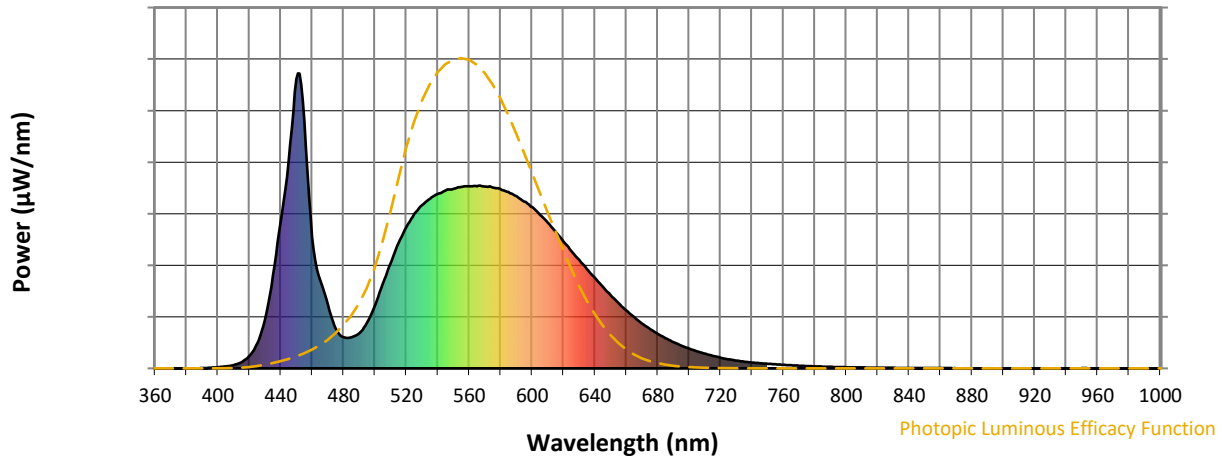
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 7-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**



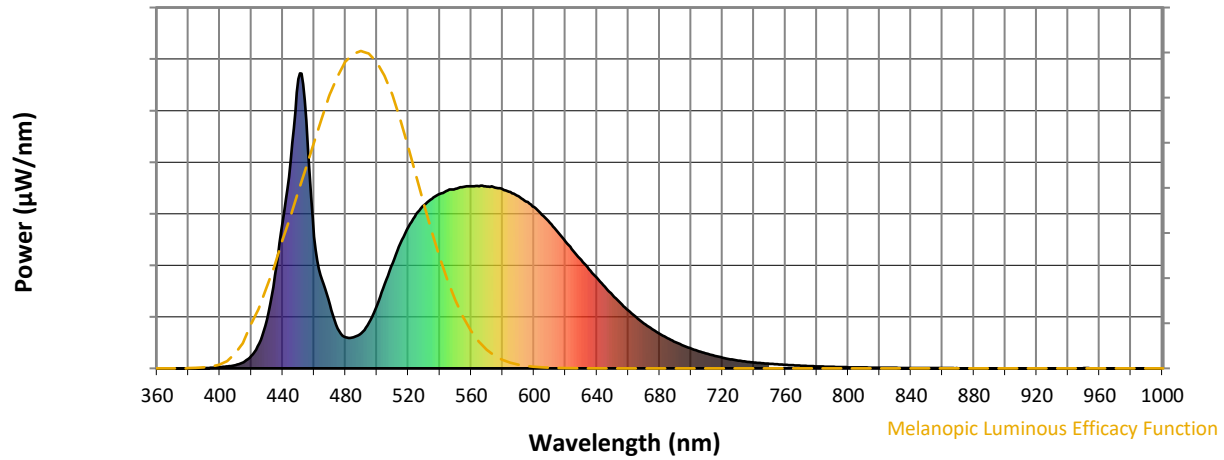
**Scotopic Lumens: NR**

**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**



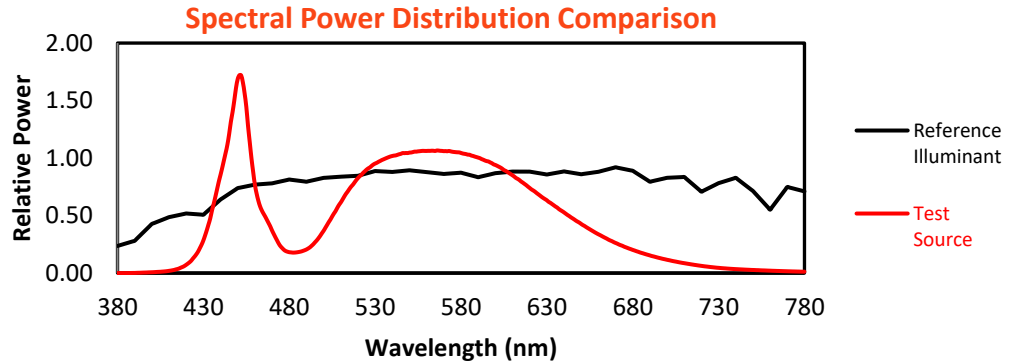
**Melanopic Lumens: NR**

**M/P: 3.51**

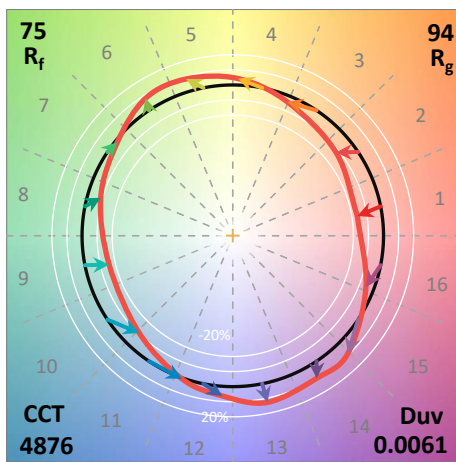
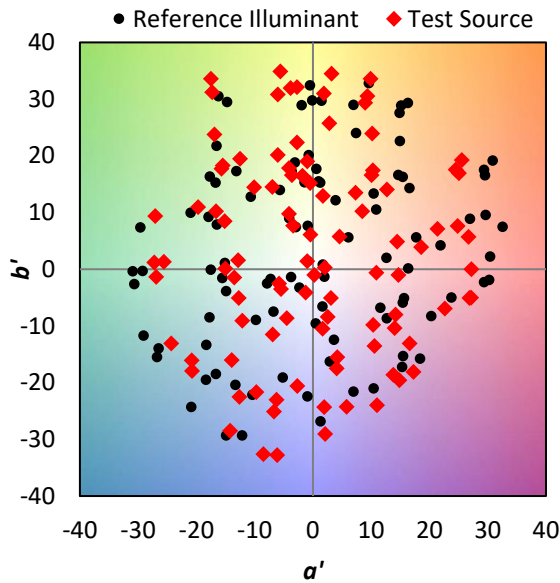
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625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

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

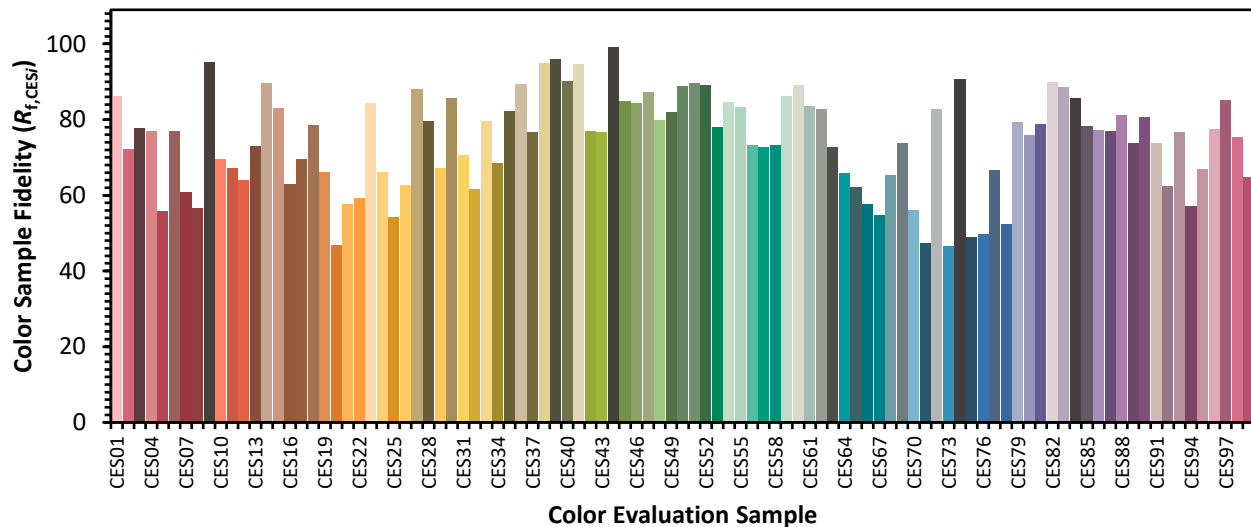


**Color Vector Graphics**



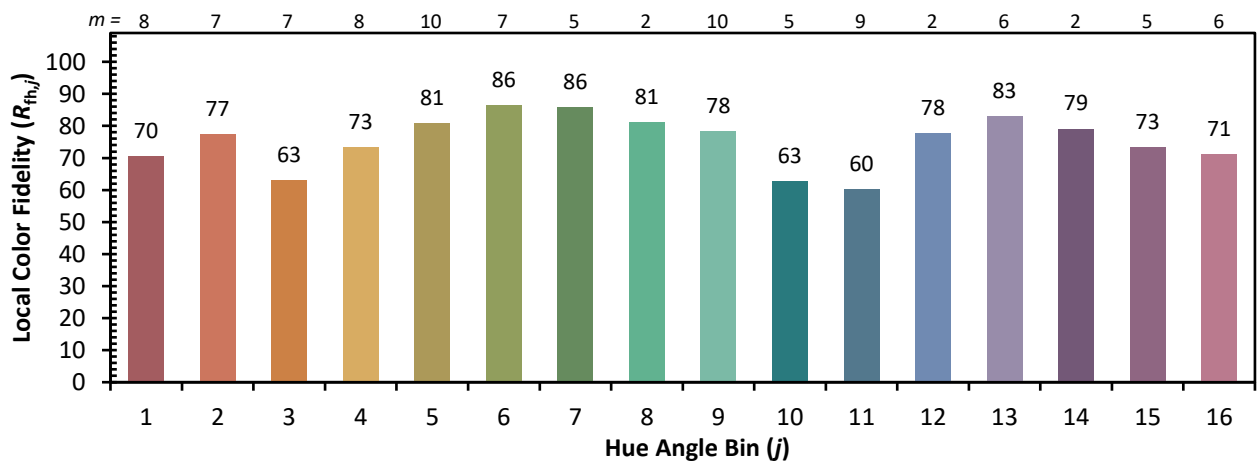
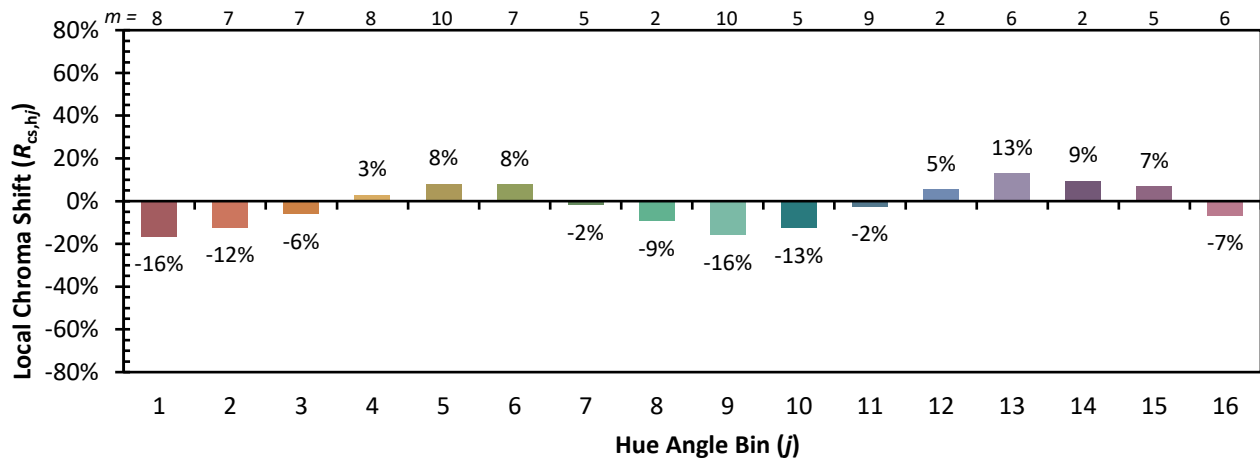
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)