

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P1445232

Luminaire Tested: TPTN-VA3-740-U-DL-GM

Issue Date: 05/21/2026

Test Information

Test Method: LM-79-2024
Report Number: P1445232
Test Lab: INNOVATION CENTER(G1)
Issue Date: 5/21/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: MCGRAW-EDISON
Catalog Number: TPTN-VA3-740-U-DL-GM
Description: TOPTIER NANO SPIDER MOUNT VISUAL COMFORT LED LUMINAIRE 60W 70CRI 4000K w/
DRIVE LANE TYPE IV DISTRIBUTION OPTIC
Light Source: 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5176.8 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Luminous Opening: Circular (Dia: 0.71' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

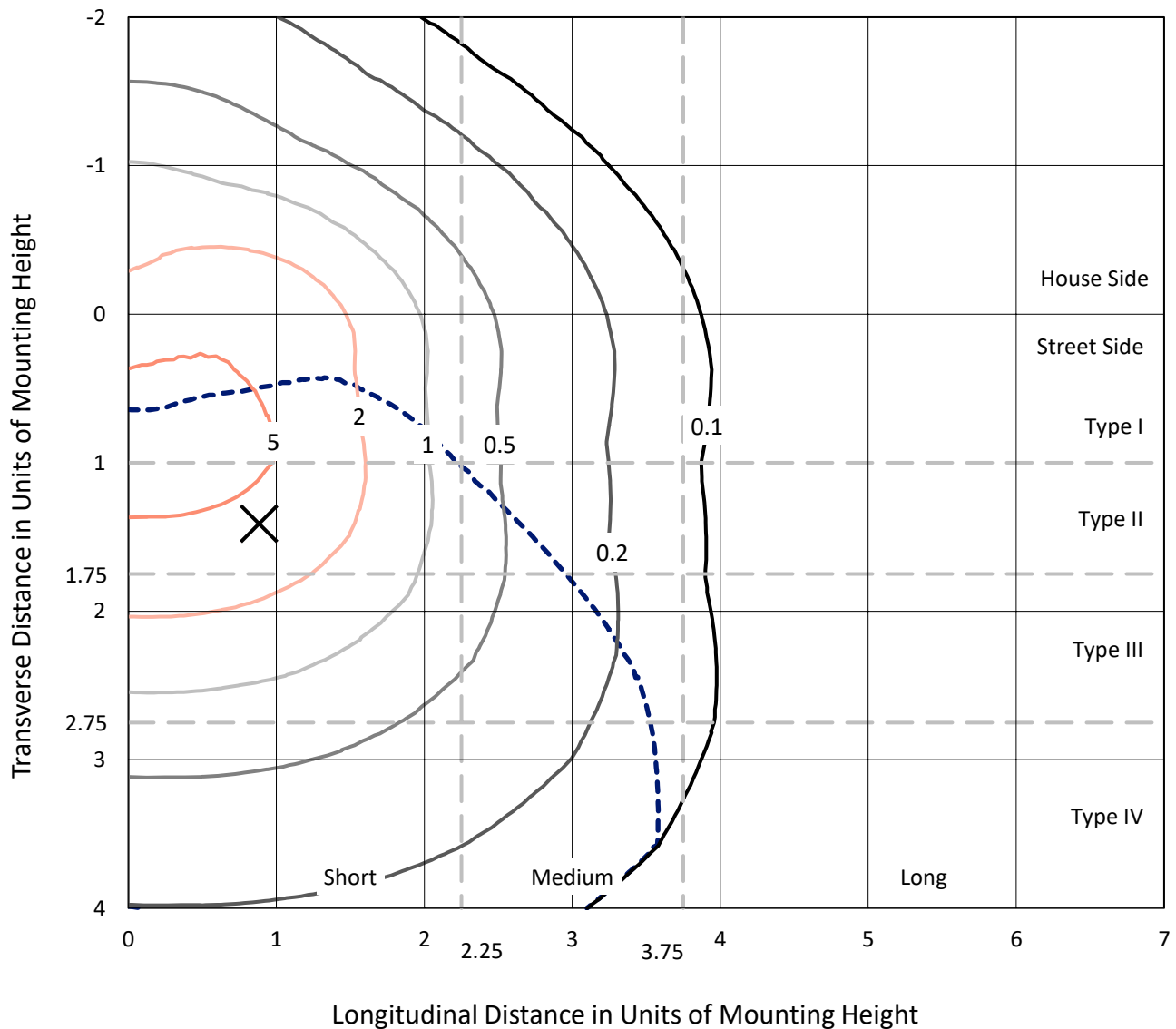
Input Watts (W): 60
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.98
Total Harmonic Distortion (THDi): 5.3%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

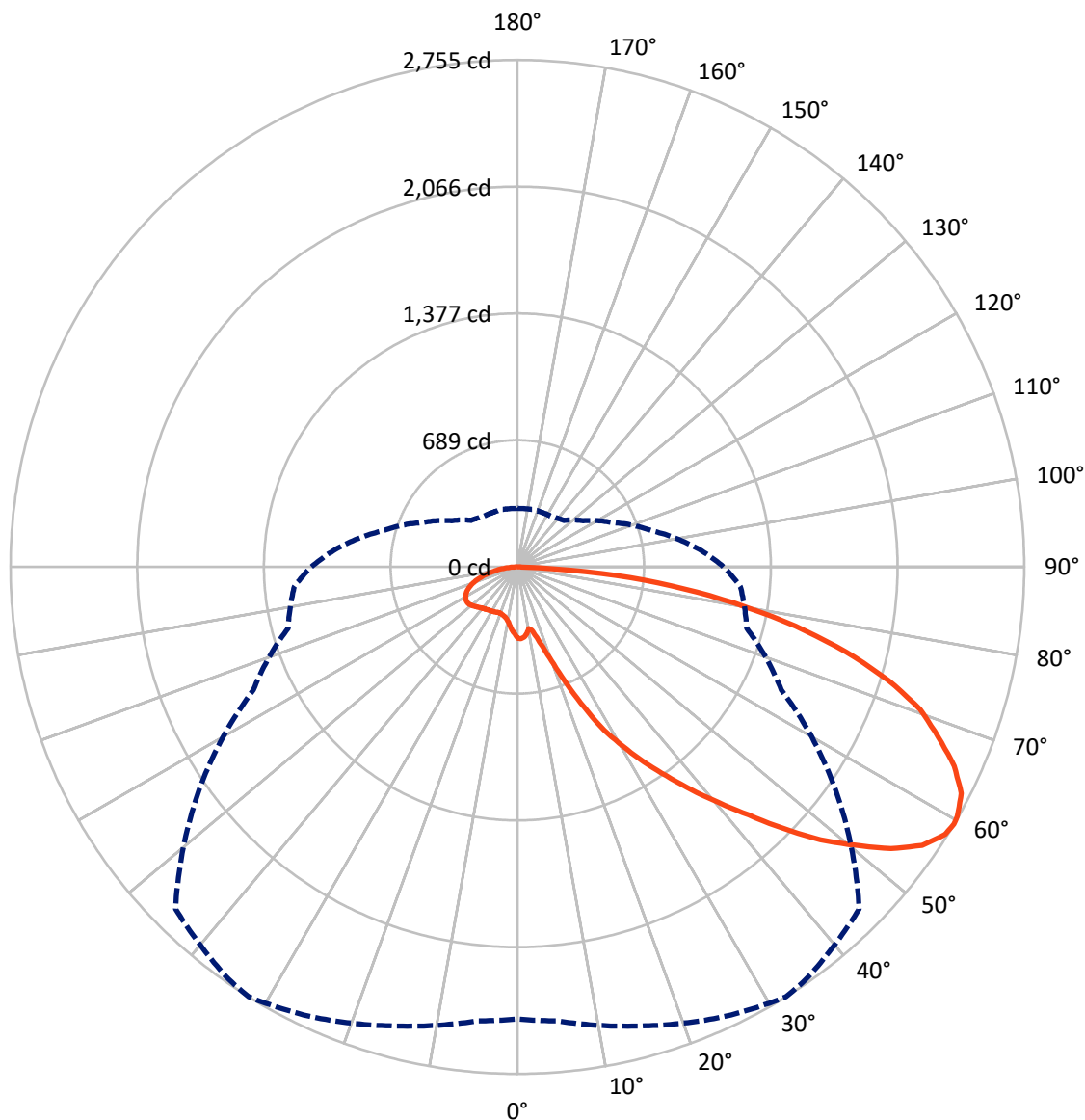


Based on 10 foot mounting height. Maximum calculated value = 8.3 fc
 Type IV - Short - N/A

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CATALOG NUMBER: TPTN-VA3-740-U-DL-GM

Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral - - - Horizontal Cone Through 59-Deg Vertical

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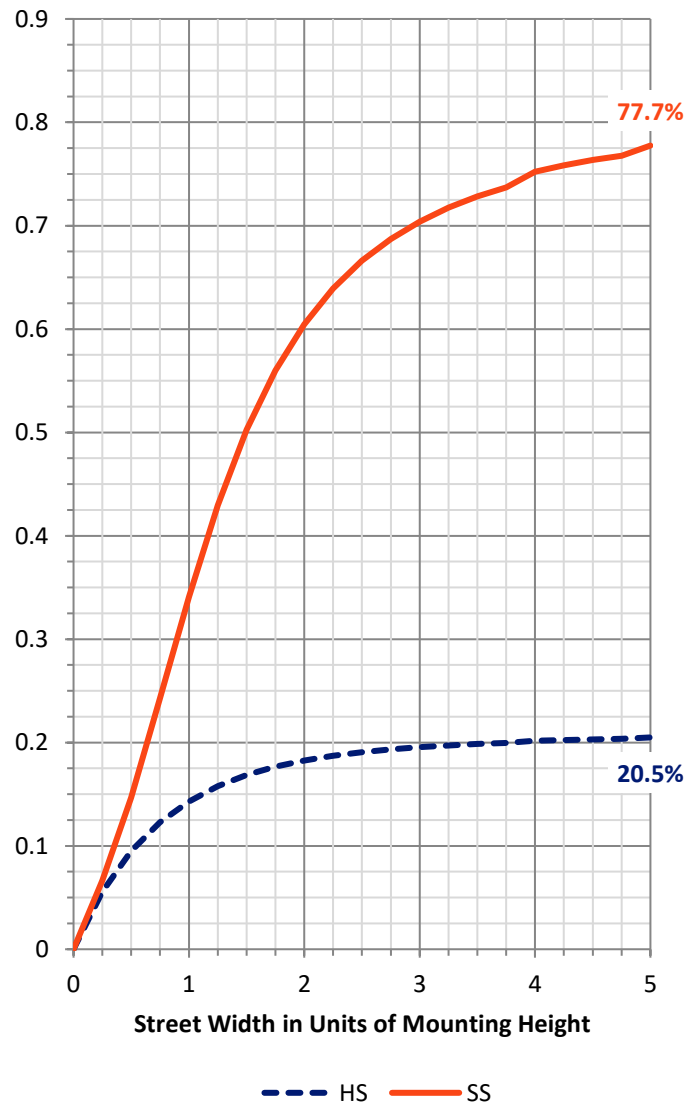
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1076.5	0.0	1076.5
	% Fixture	20.8	0.0	20.8
Street Side	Lumens	4100.3	0.0	4100.3
	% Fixture	79.2	0.0	79.2
Total	Lumens	5176.8	0.0	5176.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.8	0.7
10°-20°	102.1	2.0
20°-30°	250.9	4.8
30°-40°	492.4	9.5
40°-50°	819.0	15.8
50°-60°	1156.4	22.3
60°-70°	1214.5	23.5
70°-80°	875.9	16.9
80°-90°	231.8	4.5
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°	5176.8	100.0
0°-180°	5176.8	100.0

Coefficient of Utilization



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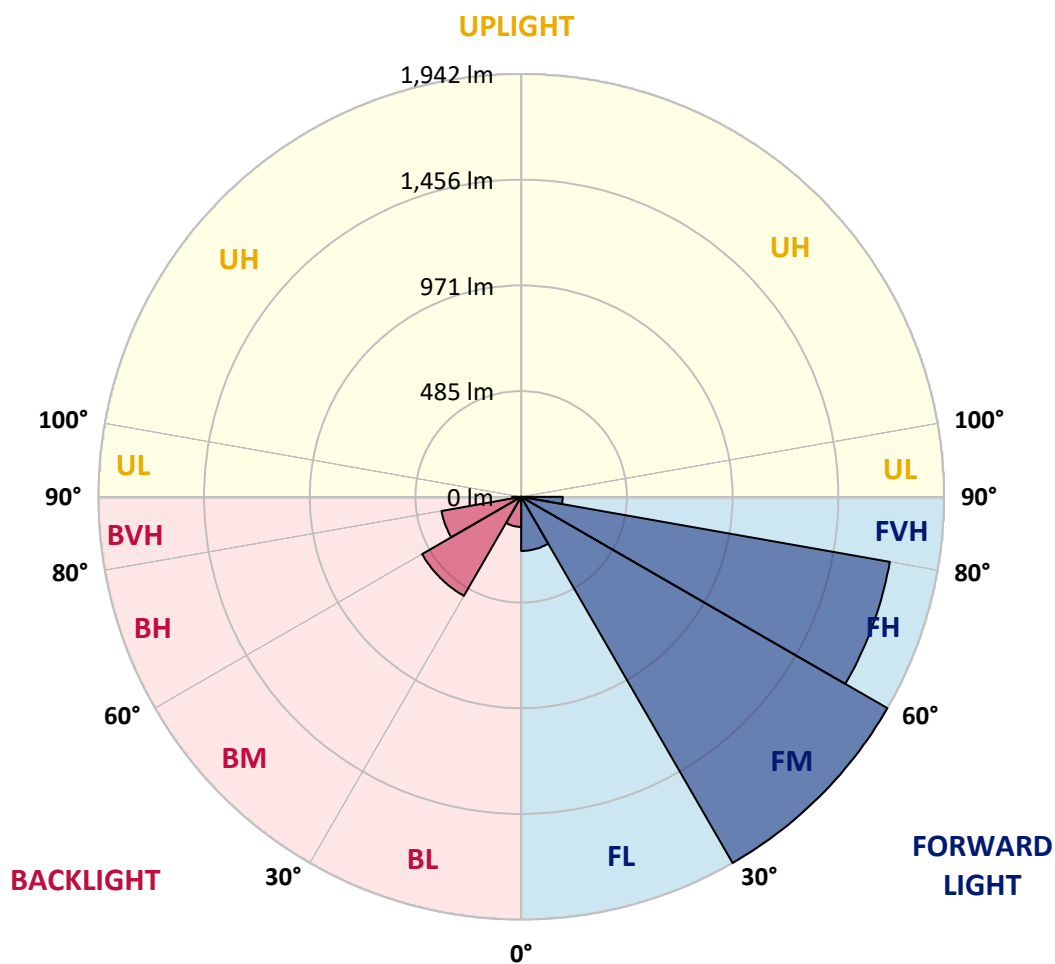
CATALOG NUMBER: TPTN-VA3-740-U-DL-GM

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	248.5	4.8			
FM	(30°-60°)	1942.0	37.5			
FH	(60°-80°)	1719.2	33.2			G1/1800
FVH	(80°-90°)	190.6	3.7			G2/225
BL	(0°-30°)	138.3	2.7	B1/500		
BM	(30°-60°)	525.8	10.2	B1/1000		
BH	(60°-80°)	371.2	7.2	B1/500		G1/500
BVH	(80°-90°)	41.2	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	32°	35°	45°	55°	65°	75°	85°
0°	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9
2.5°	393.9	392.9	392.9	391.9	390.9	390.9	389.9	387.9	384.9	381.9	379.9
5°	389.9	388.9	386.9	385.9	383.9	382.9	380.9	376.9	375.0	375.9	375.9
7.5°	373.0	374.0	372.0	369.0	366.0	365.0	360.0	359.0	358.0	355.0	357.0
10°	370.0	371.0	362.0	352.0	341.0	337.0	333.0	334.0	340.0	344.0	348.0
12.5°	394.9	390.9	382.9	369.0	355.0	351.0	340.0	340.0	345.0	349.0	353.0
15°	432.9	431.9	422.9	411.9	399.9	394.9	375.0	366.0	367.0	370.0	373.0
17.5°	488.9	491.9	494.9	480.9	466.9	456.9	427.9	407.9	399.9	400.9	400.9
20°	588.9	589.9	596.9	584.9	562.9	548.9	502.9	465.9	447.9	443.9	441.9
22.5°	731.9	727.9	727.9	724.9	695.9	678.9	605.9	539.9	507.9	496.9	495.9
25°	897.9	895.9	899.9	884.9	846.9	834.9	733.9	636.9	579.9	563.9	551.9
27.5°	1059.9	1061.9	1063.9	1036.9	1004.9	983.9	866.9	751.9	659.9	630.9	608.9
30°	1212.8	1217.8	1191.8	1153.8	1130.8	1104.9	977.9	842.9	734.9	684.9	663.9
32.5°	1363.8	1358.8	1311.8	1282.8	1263.8	1237.8	1089.9	939.9	810.9	740.9	712.9
35°	1510.8	1496.8	1437.8	1409.8	1393.8	1371.8	1224.8	1039.9	884.9	796.9	762.9
37.5°	1647.8	1639.8	1571.8	1557.8	1536.8	1519.8	1370.8	1144.8	964.9	862.9	820.9
40°	1775.8	1776.8	1727.8	1704.8	1683.8	1667.8	1519.8	1254.8	1047.9	930.9	884.9
42.5°	1908.7	1907.7	1879.7	1864.8	1842.8	1830.8	1675.8	1376.8	1134.8	1002.9	948.9
45°	2033.7	2042.7	2044.7	2035.7	2026.7	2015.7	1866.8	1517.8	1237.8	1075.9	1018.9
47.5°	2180.7	2191.7	2207.7	2210.7	2215.7	2197.7	2052.7	1650.8	1337.8	1147.8	1084.9
50°	2289.7	2300.7	2351.7	2367.7	2376.7	2368.7	2228.7	1794.8	1427.8	1215.8	1135.8
52.5°	2397.7	2403.7	2475.7	2531.7	2542.7	2529.7	2401.7	1931.7	1515.8	1269.8	1187.8
55°	2461.7	2470.7	2563.7	2646.6	2669.6	2664.6	2551.7	2027.7	1569.8	1307.8	1220.8
57.5°	2467.7	2483.7	2590.7	2690.6	2741.6	2728.6	2620.7	2091.7	1585.8	1303.8	1221.8
59°	2456.7	2475.7	2582.7	2692.6	2754.6	2735.6	2627.6	2110.7	1582.8	1289.8	1216.8
60°	2447.7	2466.7	2568.7	2685.6	2747.6	2731.6	2626.6	2119.7	1569.8	1281.8	1212.8
62.5°	2393.7	2426.7	2527.7	2631.6	2707.6	2716.6	2606.7	2123.7	1542.8	1255.8	1191.8
65°	2266.7	2298.7	2431.7	2558.7	2608.7	2639.6	2532.7	2071.7	1480.8	1202.8	1122.9
67.5°	2107.7	2134.7	2264.7	2431.7	2466.7	2494.7	2429.7	1968.7	1401.8	1099.9	1037.9
70°	1944.7	1977.7	2082.7	2257.7	2323.7	2343.7	2296.7	1856.8	1288.8	996.9	954.9
72.5°	1725.8	1752.8	1877.7	2039.7	2108.7	2133.7	2095.7	1707.8	1145.8	892.9	853.9
75°	1481.8	1497.8	1614.8	1778.8	1844.8	1869.8	1857.8	1517.8	991.9	762.9	722.9
77.5°	1186.8	1222.8	1319.8	1450.8	1544.8	1549.8	1548.8	1286.8	815.9	600.9	586.9
80°	885.9	917.9	1009.9	1133.8	1198.8	1216.8	1214.8	1014.9	632.9	459.9	436.9
82.5°	560.9	580.9	676.9	776.9	844.9	860.9	878.9	732.9	440.9	305.0	279.0
85°	223.0	222.0	305.0	411.9	461.9	488.9	501.9	426.9	239.0	136.0	115.0
87.5°	16.0	17.0	21.0	26.0	27.0	29.0	33.0	42.0	33.0	29.0	15.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REPORT NUMBER: P1445232

CATALOG NUMBER: TPTN-VA3-740-U-DL-GM

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9	387.9
2.5°	378.9	377.9	374.0	372.0	369.0	368.0	367.0	365.0	364.0	363.0	364.0
5°	373.0	373.0	369.0	366.0	359.0	354.0	349.0	342.0	337.0	334.0	333.0
7.5°	359.0	360.0	359.0	353.0	347.0	339.0	327.0	315.0	306.0	301.0	299.0
10°	347.0	349.0	348.0	344.0	334.0	321.0	306.0	290.0	276.0	267.0	266.0
12.5°	353.0	353.0	350.0	342.0	329.0	312.0	293.0	272.0	256.0	246.0	244.0
15°	373.0	371.0	362.0	349.0	329.0	308.0	285.0	261.0	242.0	231.0	230.0
17.5°	401.9	397.9	381.9	358.0	332.0	306.0	281.0	254.0	231.0	217.0	215.0
20°	439.9	430.9	405.9	370.0	338.0	308.0	277.0	247.0	224.0	208.0	204.0
22.5°	486.9	471.9	432.9	384.9	346.0	312.0	278.0	245.0	220.0	205.0	204.0
25°	535.9	515.9	463.9	402.9	355.0	315.0	279.0	249.0	224.0	213.0	211.0
27.5°	585.9	561.9	496.9	423.9	365.0	320.0	283.0	255.0	236.0	227.0	226.0
30°	634.9	602.9	525.9	441.9	375.0	323.0	286.0	255.0	242.0	235.0	234.0
32.5°	679.9	640.9	552.9	460.9	384.9	329.0	289.0	258.0	246.0	244.0	243.0
35°	727.9	685.9	580.9	476.9	394.9	334.0	292.0	261.0	252.0	252.0	252.0
37.5°	779.9	730.9	610.9	494.9	404.9	343.0	296.0	268.0	260.0	262.0	262.0
40°	834.9	778.9	641.9	513.9	413.9	348.0	299.0	275.0	268.0	270.0	271.0
42.5°	891.9	825.9	673.9	530.9	425.9	354.0	305.0	284.0	279.0	281.0	281.0
45°	949.9	875.9	703.9	548.9	435.9	360.0	312.0	294.0	290.0	291.0	291.0
47.5°	1006.9	920.9	730.9	564.9	444.9	365.0	319.0	304.0	301.0	302.0	301.0
50°	1054.9	959.9	754.9	576.9	453.9	370.0	327.0	314.0	312.0	310.0	309.0
52.5°	1096.9	994.9	773.9	585.9	457.9	372.0	334.0	324.0	322.0	318.0	317.0
55°	1119.9	1010.9	778.9	587.9	454.9	370.0	336.0	329.0	327.0	322.0	322.0
57.5°	1124.9	1010.9	767.9	578.9	444.9	363.0	335.0	327.0	325.0	320.0	320.0
59°	1119.9	1004.9	757.9	568.9	436.9	357.0	331.0	325.0	322.0	318.0	318.0
60°	1114.9	1000.9	750.9	558.9	431.9	353.0	327.0	322.0	319.0	316.0	316.0
62.5°	1092.9	977.9	731.9	532.9	414.9	338.0	318.0	315.0	313.0	310.0	309.0
65°	1031.9	922.9	691.9	503.9	388.9	320.0	303.0	302.0	301.0	296.0	294.0
67.5°	959.9	854.9	633.9	466.9	356.0	299.0	285.0	285.0	281.0	277.0	278.0
70°	885.9	789.9	573.9	420.9	318.0	272.0	261.0	262.0	258.0	257.0	258.0
72.5°	787.9	697.9	507.9	365.0	279.0	241.0	232.0	235.0	234.0	233.0	233.0
75°	663.9	591.9	427.9	308.0	236.0	207.0	202.0	203.0	204.0	203.0	203.0
77.5°	540.9	480.9	339.0	243.0	187.0	167.0	166.0	171.0	172.0	171.0	172.0
80°	400.9	354.0	247.0	178.0	139.0	128.0	130.0	137.0	139.0	139.0	141.0
82.5°	258.0	222.0	160.0	115.0	93.0	90.0	96.0	103.0	106.0	106.0	106.0
85°	102.0	92.0	74.0	57.0	53.0	57.0	64.0	68.0	73.0	73.0	72.0
87.5°	6.0	15.0	23.0	23.0	23.0	25.0	25.0	26.0	27.0	26.0	26.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2411-284-2

Test Date: 11/20/2024

Luminaire Tested: TTN-D0-740-U-WQ

Data in this report applies to families of products including TTN-D0-740-U-WQ

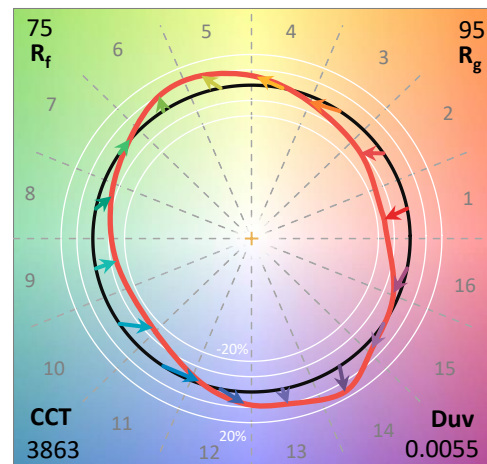
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2411-284-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/20/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **TTN-D0-740-U-WQ**
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 4000K, 70 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K): 3863
 CIE u' : 0.2247
 CIE v' : 0.5111
 Duv: 0.0055
 CIE x: 0.3911
 CIE y: 0.3954
 CIE z: 0.2136
 Peak Wavelength (nm): 448
 Dominant Wavelength (nm): 577
 Purity: 36.03443
 R_f: 74.7
 R_g: 95.4

CRI (Ra): 71.9
 R1: 69.4
 R2: 76.9
 R3: 83.3
 R4: 72.7
 R5: 68.4
 R6: 67.5
 R7: 82.0
 R8: 55.3
 R9: -23.5
 R10: 45.4
 R11: 68.7
 R12: 38.7
 R13: 70.0
 R14: 90.3
 R15: 62.1



Test Conditions

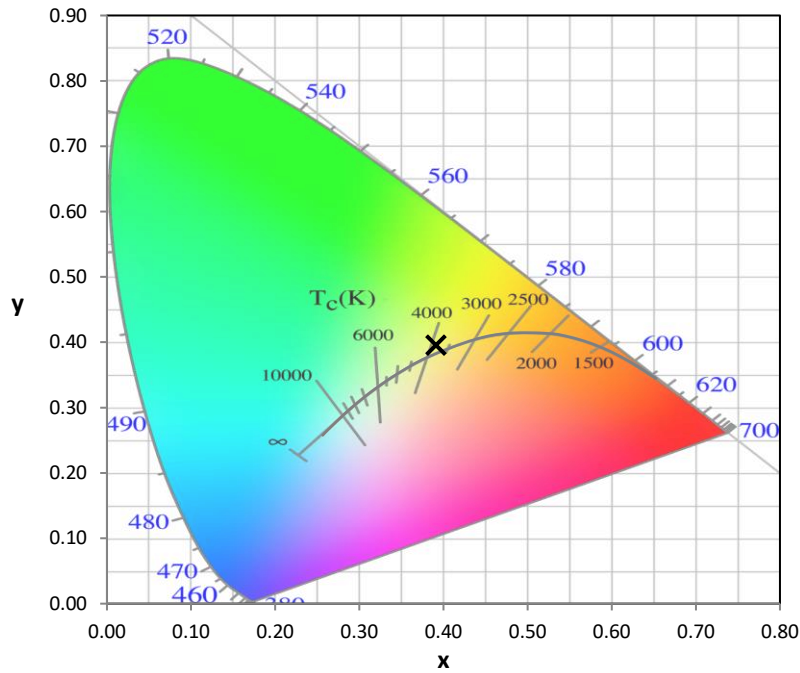
Stabilization Time: 37M
 Operation Time: 1H 37M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2411-284-2

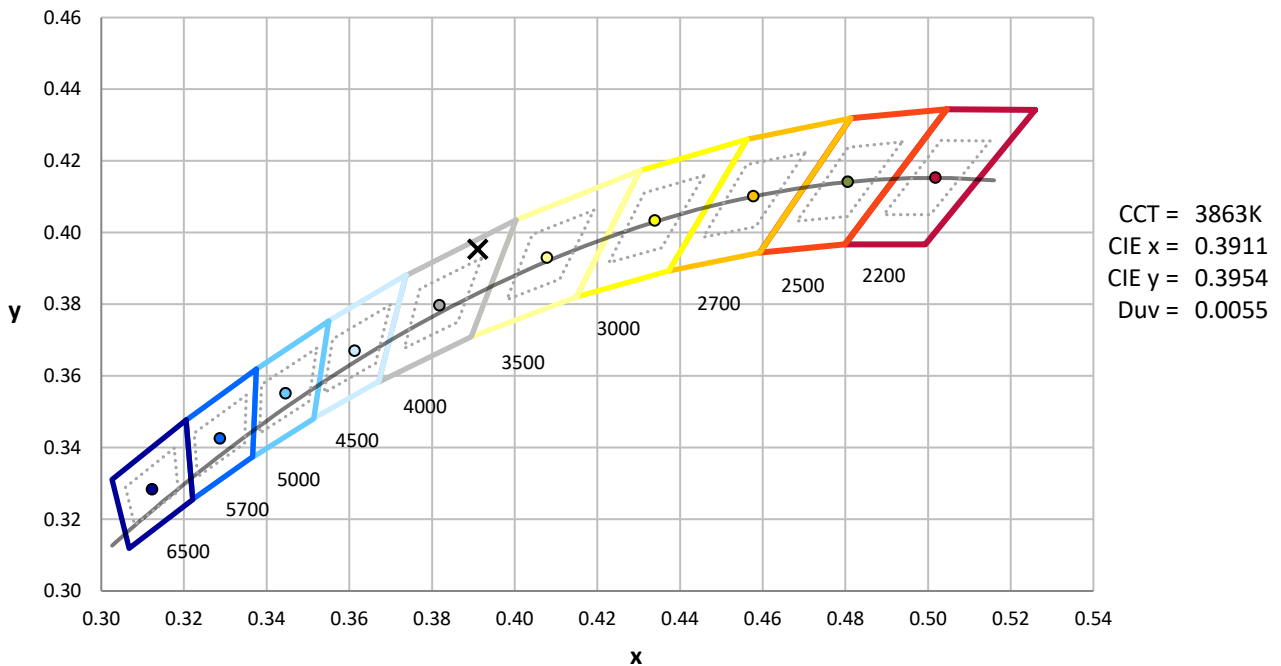
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

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CIE 1931 Chromaticity Diagram



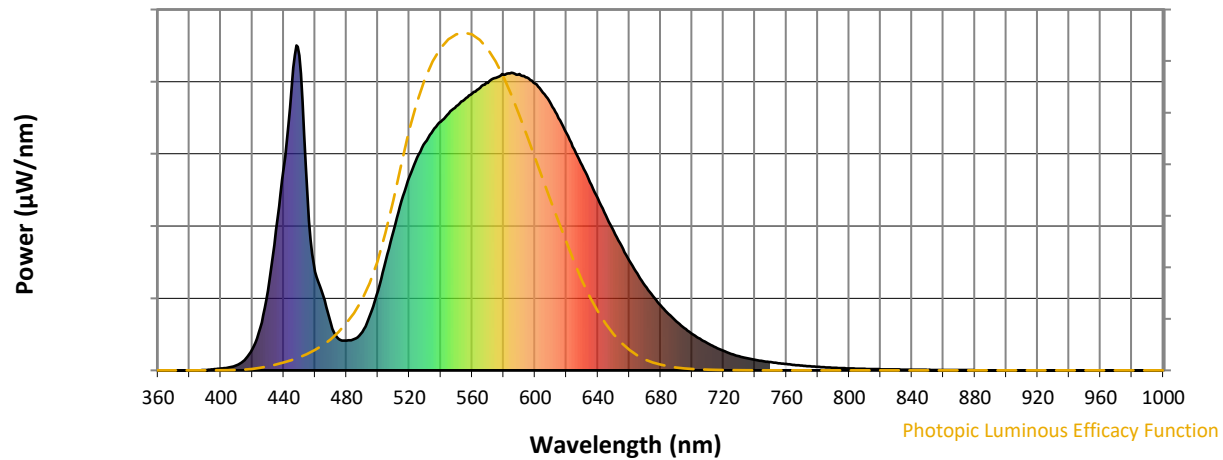
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 7-step quadrangle

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Photopic Flux vs. Wavelength

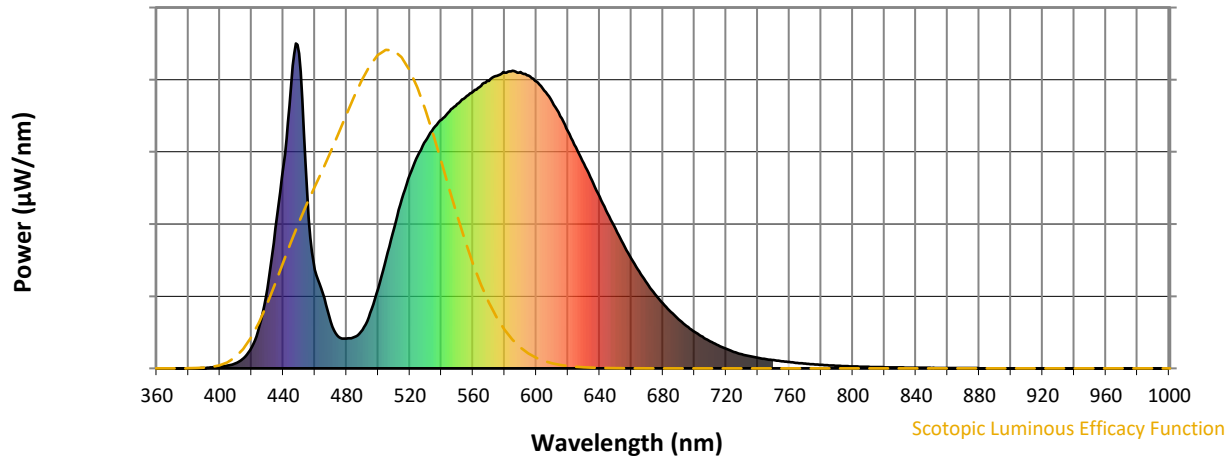


Photopic Lumens: NR

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

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Scotopic Flux vs. Wavelength



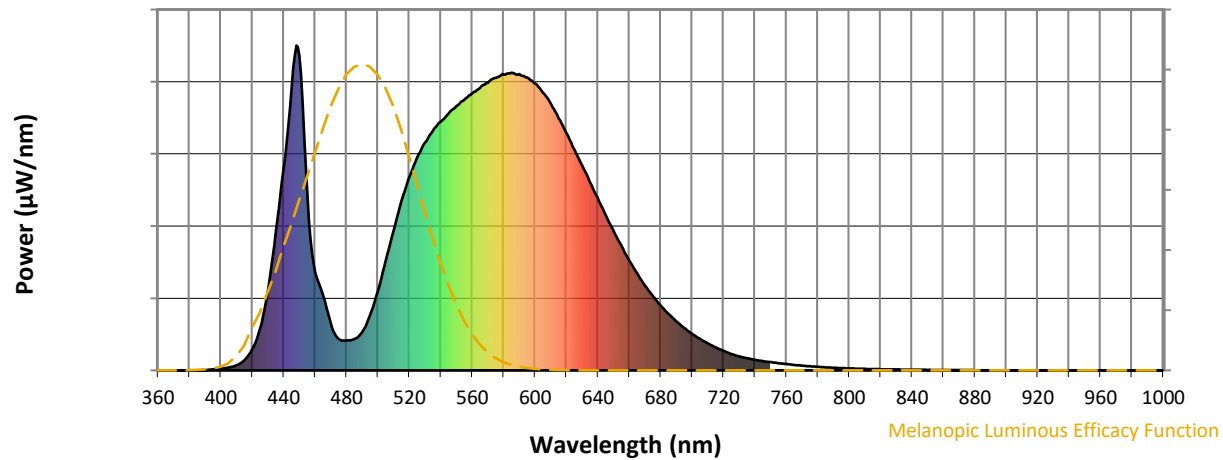
Scotopic Lumens: NR

S/P: 1.45

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	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.72

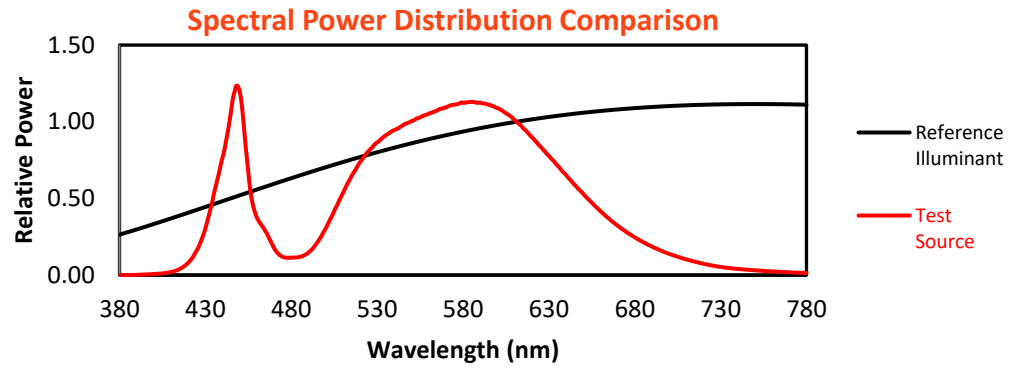
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

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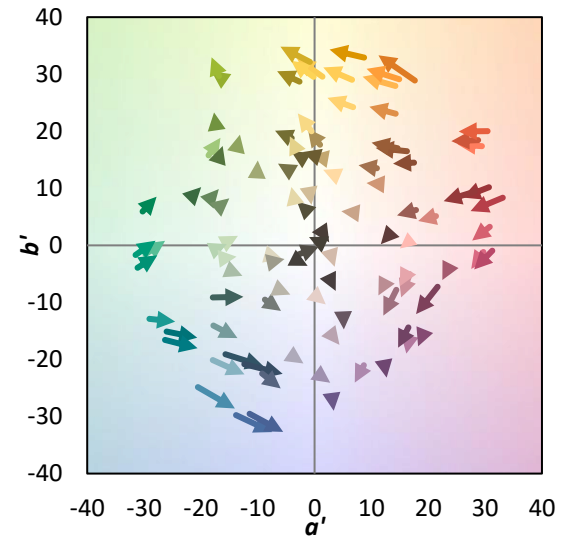
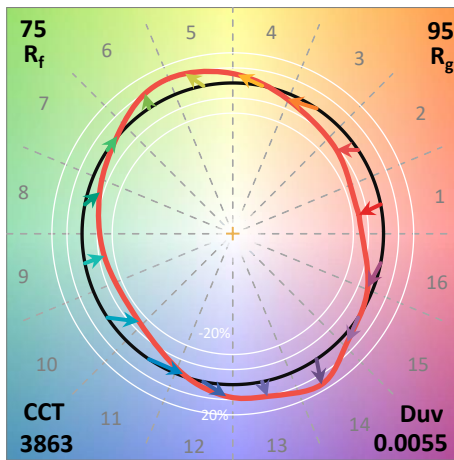
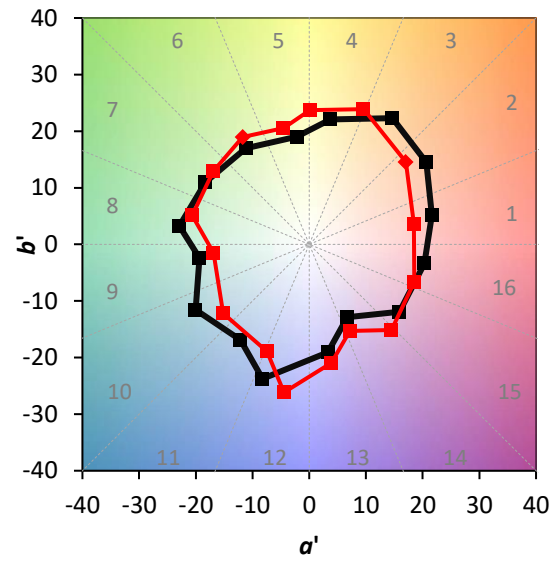
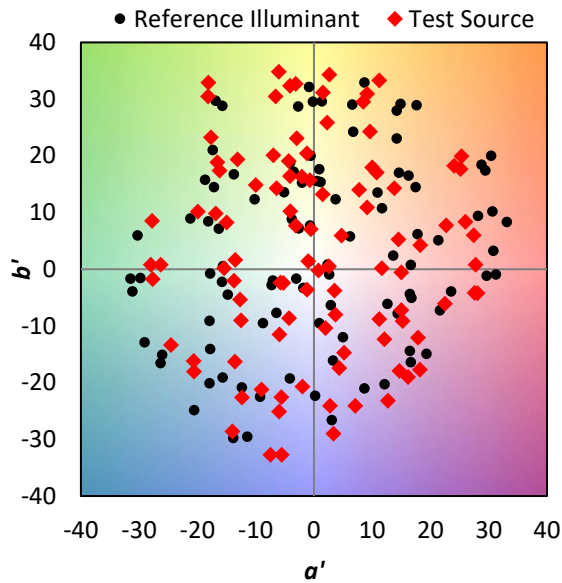
TM-30-18

Summary

$R_f = 74.7$
 $R_g = 95.4$
 $CIE R_a = 71.9$
 $R_g = -23.5$

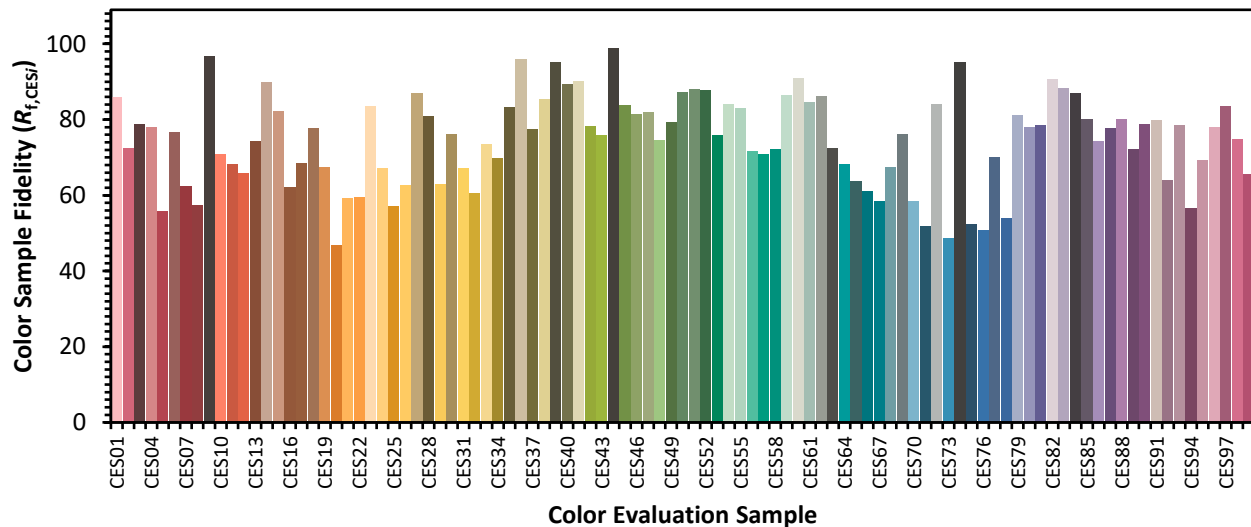


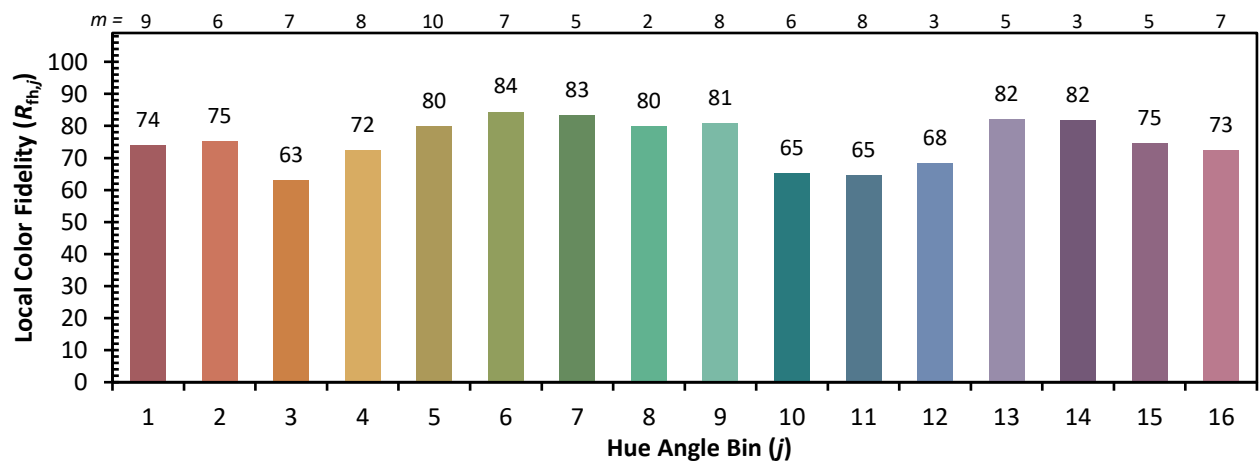
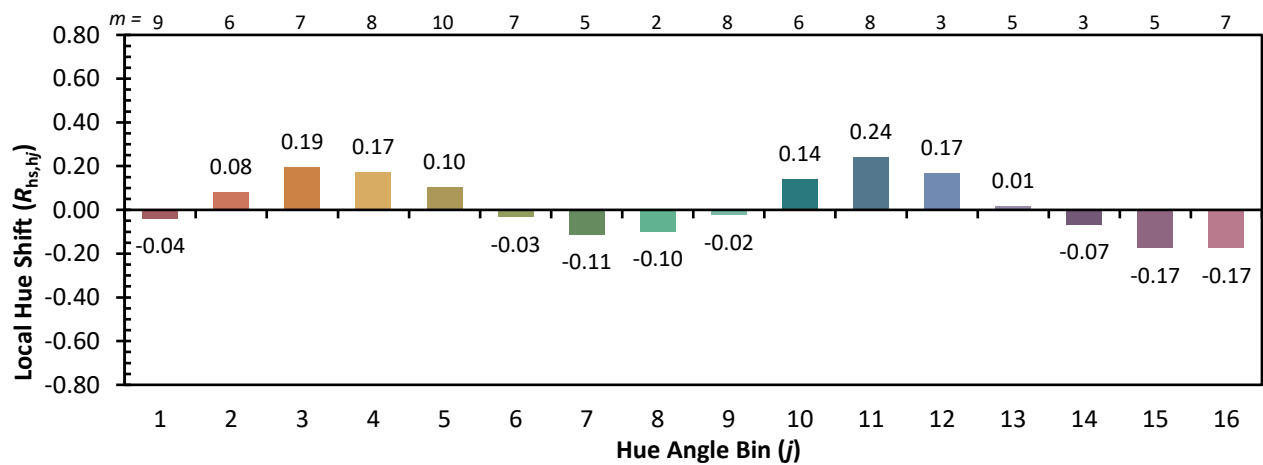
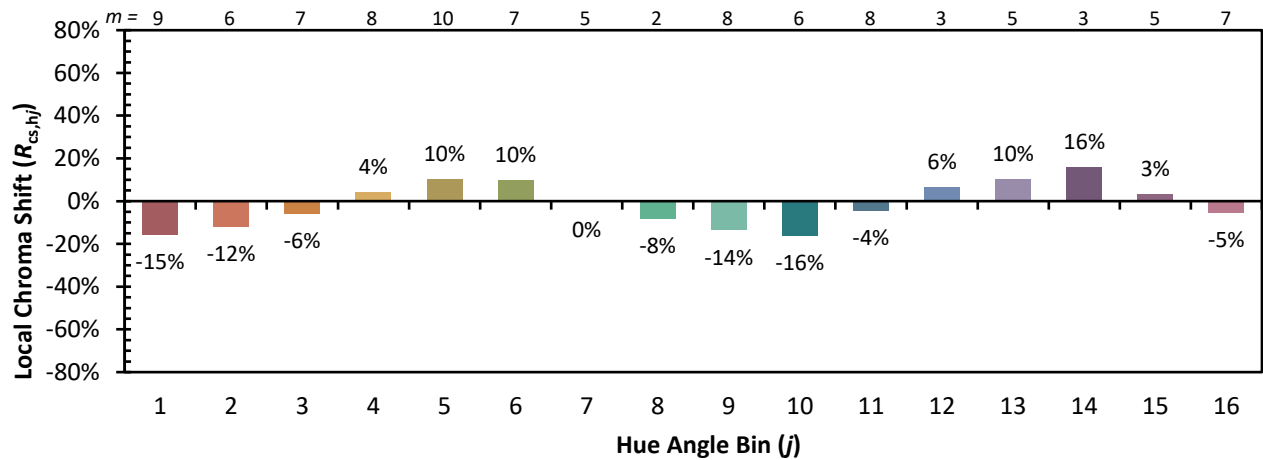
Color Vector Graphics



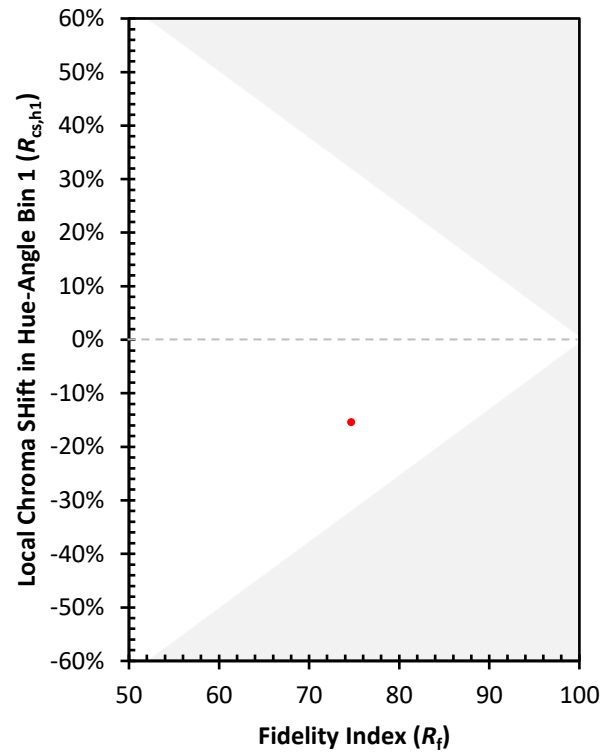
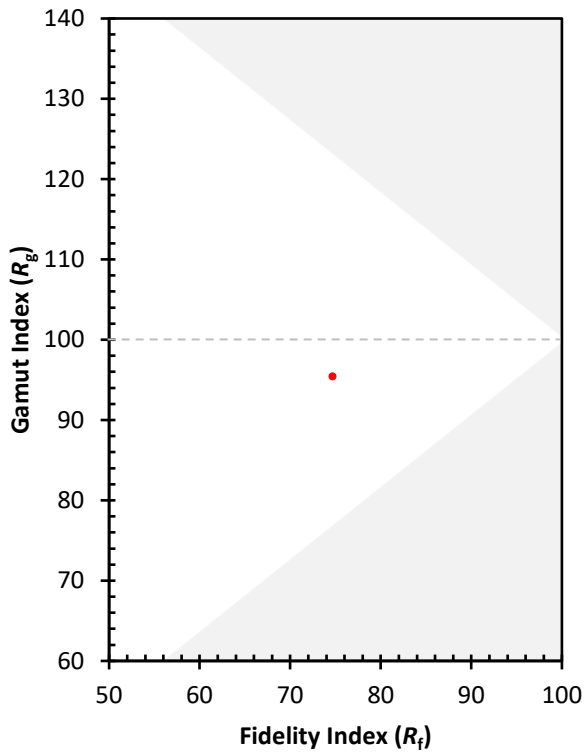
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 63	CES51 = 88	CES76 = 51
CES02 = 61	CES27 = 87	CES52 = 88	CES77 = 70
CES03 = 30	CES28 = 81	CES53 = 76	CES78 = 54
CES04 = 70	CES29 = 63	CES54 = 84	CES79 = 81
CES05 = 47	CES30 = 76	CES55 = 83	CES80 = 78
CES06 = 50	CES31 = 67	CES56 = 72	CES81 = 79
CES07 = 40	CES32 = 61	CES57 = 71	CES82 = 91
CES08 = 39	CES33 = 73	CES58 = 72	CES83 = 88
CES09 = 29	CES34 = 70	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 83	CES60 = 91	CES85 = 80
CES11 = 57	CES36 = 96	CES61 = 85	CES86 = 74
CES12 = 63	CES37 = 77	CES62 = 86	CES87 = 78
CES13 = 42	CES38 = 85	CES63 = 72	CES88 = 80
CES14 = 74	CES39 = 95	CES64 = 68	CES89 = 72
CES15 = 71	CES40 = 89	CES65 = 64	CES90 = 79
CES16 = 46	CES41 = 90	CES66 = 61	CES91 = 80
CES17 = 49	CES42 = 78	CES67 = 58	CES92 = 64
CES18 = 56	CES43 = 76	CES68 = 67	CES93 = 78
CES19 = 71	CES44 = 99	CES69 = 76	CES94 = 57
CES20 = 65	CES45 = 84	CES70 = 58	CES95 = 69
CES21 = 86	CES46 = 81	CES71 = 52	CES96 = 78
CES22 = 78	CES47 = 82	CES72 = 84	CES97 = 84
CES23 = 92	CES48 = 75	CES73 = 49	CES98 = 75
CES24 = 91	CES49 = 79	CES74 = 95	CES99 = 66
CES25 = 72	CES50 = 87	CES75 = 52	



Color Rendition by Hue-Angle Bin


Measure Comparisons



(END OF REPORT)