

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: P832689

Luminaire Tested: **TTN-D3-740-U-WQ-CG**

Issue Date: 5/14/2024

Test Information

Test Method: LM-79-08
Report Number: P832689
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-12)
Test Lab: INNOVATION CENTER
Issue Date: 5/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TTN-D3-740-U-WQ-CG
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE
4000K, 70 CRI LEDS AND WIDE DISTRIBUTION WITH CLEAR GLASS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6682 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Luminous Opening: Circular (Dia: 0.71' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G1

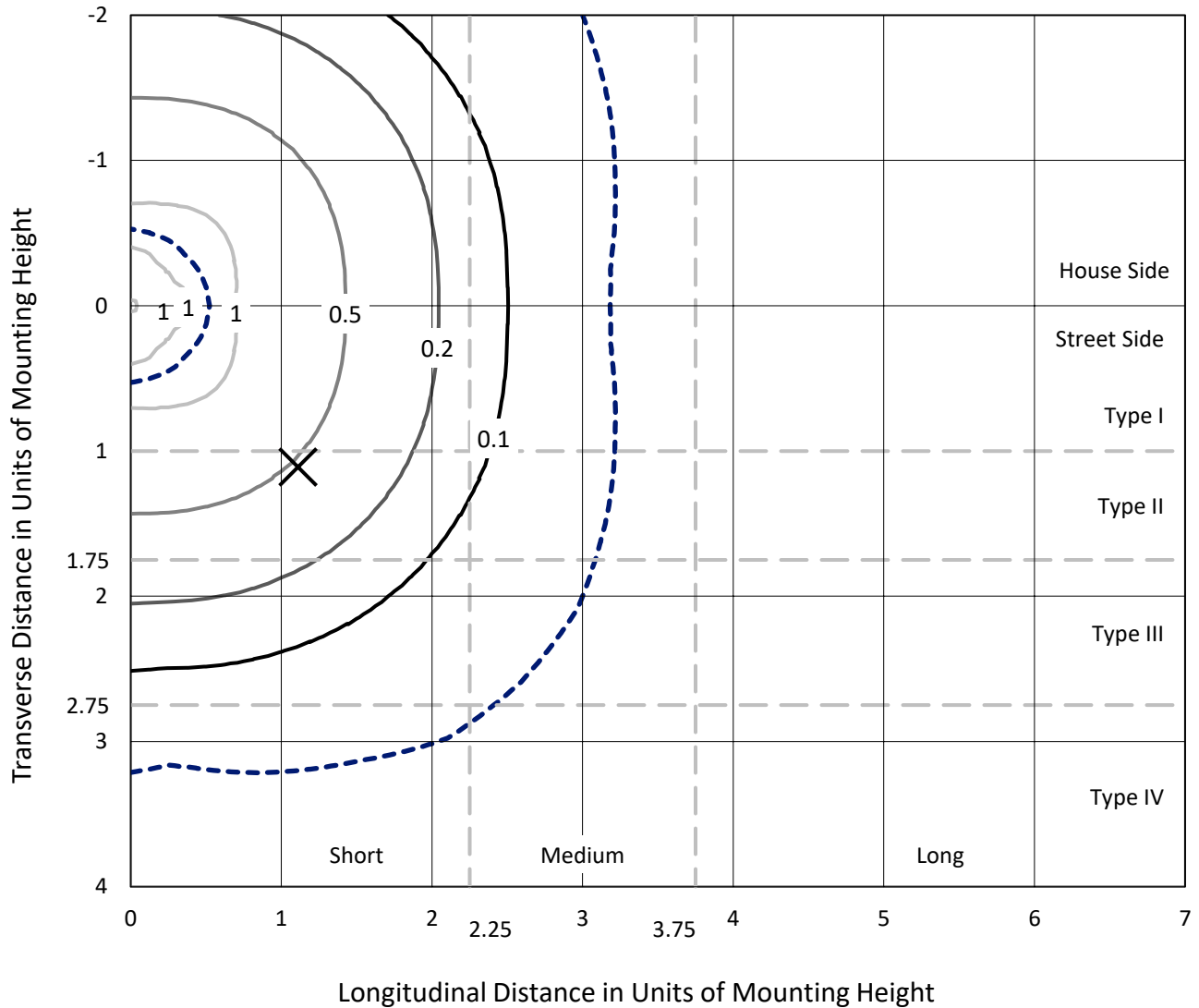
Input Watts (W): 59.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

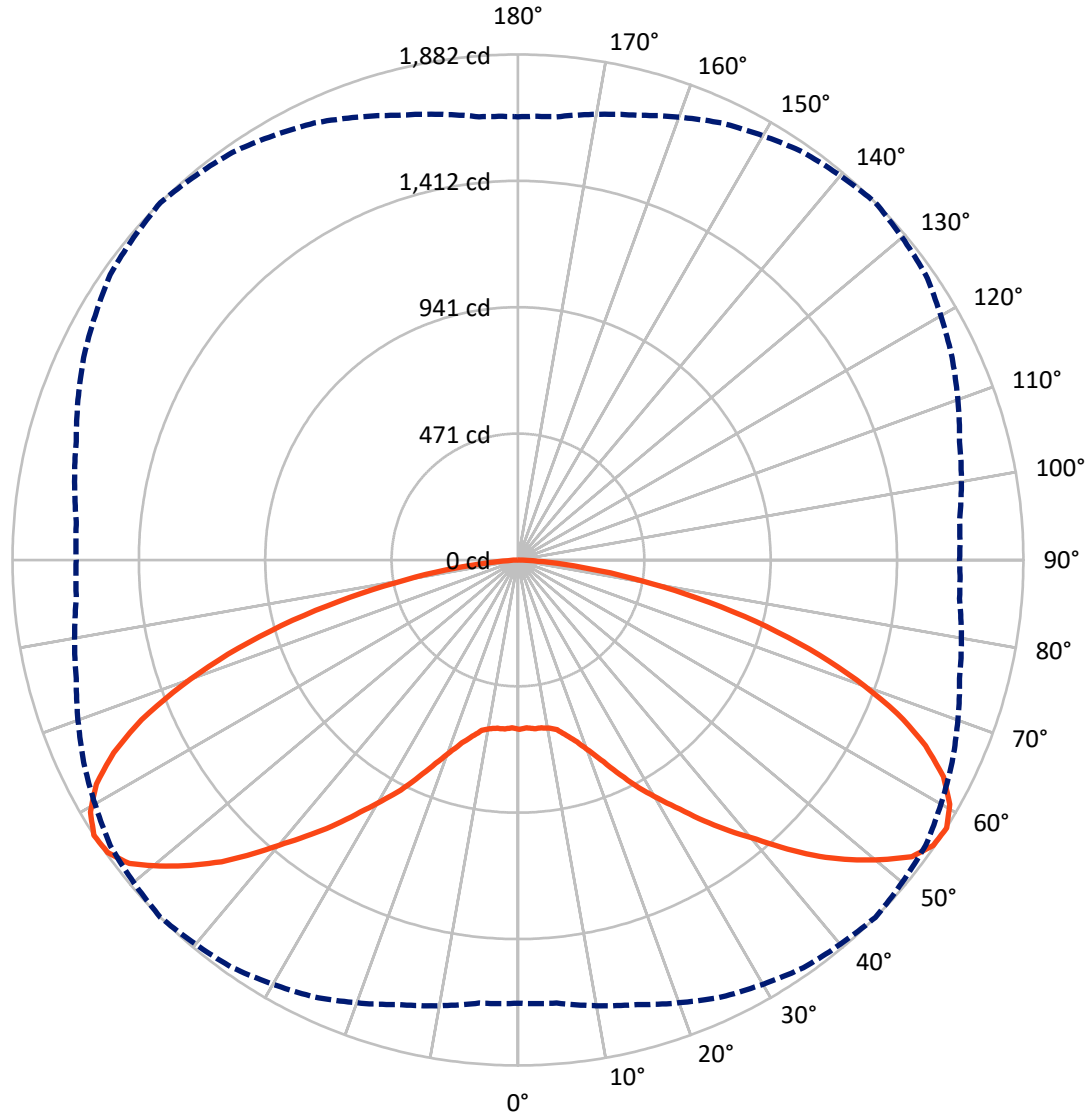
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc
 Type V - Short - N/A

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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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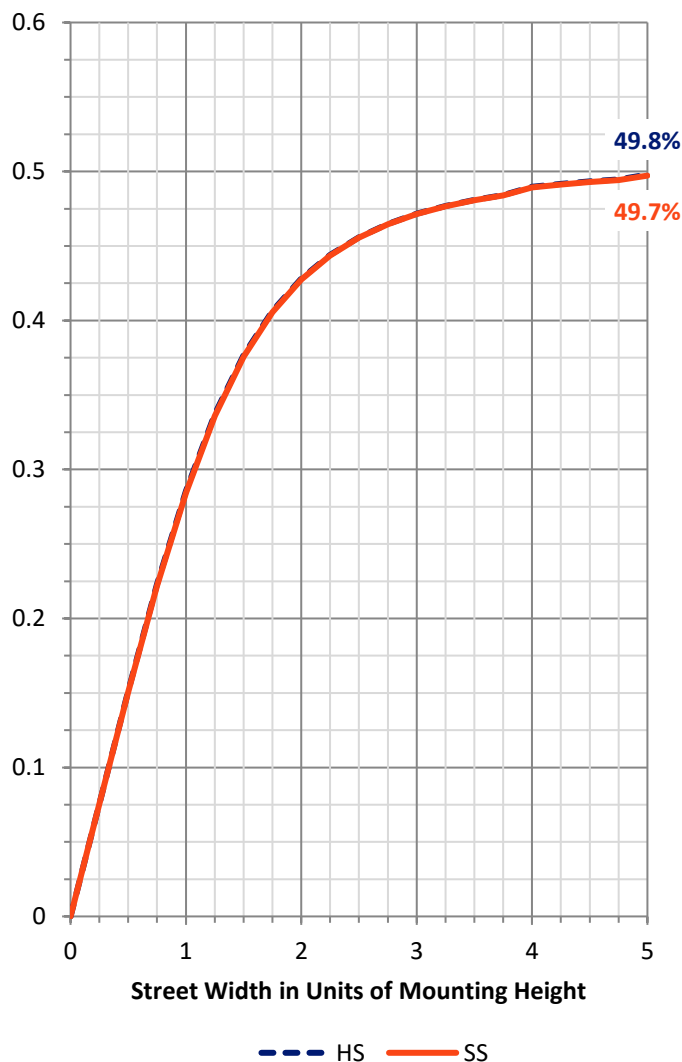
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3341.0	0.0	3341.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3341.0	0.0	3341.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	6682.0	0.0	6682.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.2	0.9
10°-20°	194.6	2.9
20°-30°	409.5	6.1
30°-40°	738.2	11.0
40°-50°	1173.5	17.6
50°-60°	1565.7	23.4
60°-70°	1512.7	22.6
70°-80°	876.6	13.1
80°-90°	151.1	2.3
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°	6682.0	100.0
0°-180°	6682.0	100.0

Coefficient of Utilization



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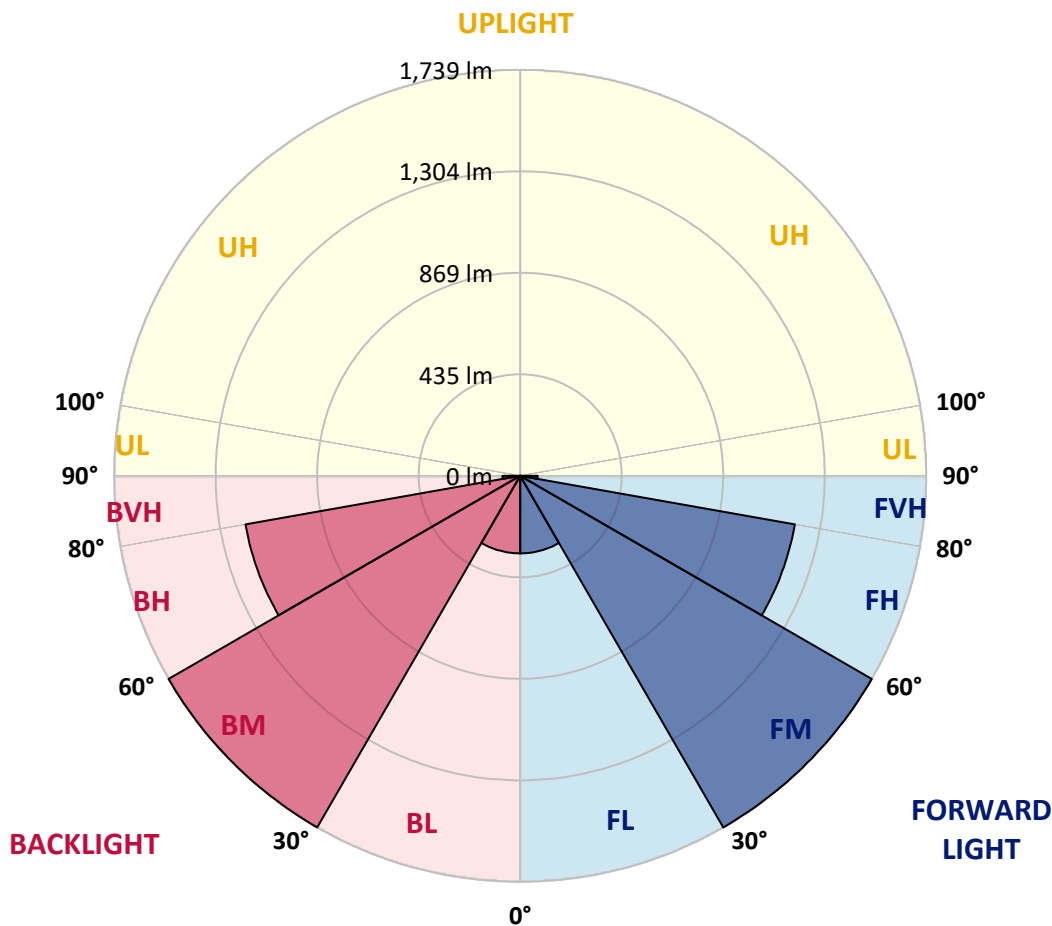
CATALOG NUMBER: TTN-D3-740-U-WQ-CG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	332.2	5.0			
FM (30°-60°)	1738.7	26.0			
FH (60°-80°)	1194.6	17.9			G1/1800
FVH (80°-90°)	75.5	1.1			G1/100
BL (0°-30°)	332.2	5.0	B1/500		
BM (30°-60°)	1738.7	26.0	B2/2500		
BH (60°-80°)	1194.6	17.9	B3/2500		G1/1800
BVH (80°-90°)	75.5	1.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type V Short





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CATALOG NUMBER: TTN-D3-740-U-WQ-CG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2
2.5°	625.4	625.4	625.4	625.4	625.4	625.4	625.4	625.4	625.4	625.4	625.4
5°	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2	631.2
7.5°	625.4	625.4	631.2	631.2	631.2	631.2	631.2	631.2	631.2	625.4	625.4
10°	631.2	631.2	631.2	637.0	637.0	637.0	637.0	637.0	631.2	631.2	631.2
12.5°	642.8	642.8	648.6	648.6	648.6	648.6	648.6	648.6	648.6	642.8	642.8
15°	671.8	671.8	671.8	677.6	677.6	677.6	677.6	677.6	671.8	671.8	671.8
17.5°	700.7	700.7	706.5	706.5	712.3	712.3	712.3	706.5	706.5	706.5	706.5
20°	741.3	741.3	747.1	747.1	752.8	752.8	752.8	747.1	747.1	747.1	747.1
22.5°	793.4	799.2	799.2	799.2	805.0	810.8	810.8	805.0	799.2	799.2	799.2
25°	857.1	862.9	868.7	868.7	874.5	886.0	886.0	868.7	868.7	868.7	868.7
27.5°	932.4	938.2	944.0	944.0	949.7	961.3	955.5	944.0	944.0	938.2	938.2
30°	1001.9	1007.7	1013.4	1019.2	1025.0	1030.8	1030.8	1019.2	1013.4	1007.7	1001.9
32.5°	1071.4	1071.4	1082.9	1094.5	1106.1	1111.9	1111.9	1094.5	1082.9	1071.4	1065.6
35°	1140.8	1146.6	1152.4	1169.8	1187.2	1193.0	1187.2	1169.8	1152.4	1140.8	1140.8
37.5°	1216.1	1221.9	1227.7	1250.9	1268.3	1279.8	1268.3	1250.9	1227.7	1216.1	1210.3
40°	1297.2	1303.0	1308.8	1337.7	1355.1	1366.7	1349.3	1332.0	1308.8	1297.2	1291.4
42.5°	1372.5	1384.1	1395.7	1430.4	1459.4	1470.9	1453.6	1424.6	1401.4	1372.5	1366.7
45°	1465.1	1476.7	1494.1	1528.9	1557.8	1575.2	1552.0	1523.1	1488.3	1465.1	1459.4
47.5°	1540.4	1552.0	1569.4	1615.7	1656.3	1667.8	1644.7	1609.9	1563.6	1534.6	1528.9
50°	1598.3	1609.9	1644.7	1696.8	1743.1	1754.7	1731.5	1685.2	1633.1	1592.6	1586.8
52.5°	1644.7	1656.3	1696.8	1766.3	1818.4	1835.8	1806.8	1754.7	1685.2	1638.9	1633.1
55°	1667.8	1673.6	1725.7	1801.0	1853.2	1876.3	1847.4	1789.5	1714.2	1662.0	1656.3
57.5°	1650.5	1656.3	1714.2	1795.2	1853.2	1882.1	1853.2	1783.7	1702.6	1650.5	1644.7
60°	1615.7	1615.7	1667.8	1760.5	1830.0	1847.4	1818.4	1748.9	1662.0	1609.9	1604.1
62.5°	1552.0	1546.2	1609.9	1691.0	1760.5	1777.9	1754.7	1685.2	1598.3	1546.2	1540.4
65°	1430.4	1418.8	1511.5	1586.8	1650.5	1667.8	1650.5	1586.8	1505.7	1424.6	1413.0
67.5°	1285.6	1268.3	1355.1	1442.0	1499.9	1523.1	1499.9	1447.8	1355.1	1274.0	1268.3
70°	1135.1	1117.7	1187.2	1262.5	1326.2	1337.7	1314.6	1262.5	1175.6	1123.5	1123.5
72.5°	955.5	938.2	1001.9	1059.8	1123.5	1135.1	1111.9	1065.6	1001.9	949.7	944.0
75°	758.6	741.3	799.2	845.5	909.2	915.0	903.4	851.3	799.2	747.1	747.1
77.5°	561.7	544.4	590.7	631.2	683.4	683.4	677.6	637.0	590.7	555.9	555.9
80°	370.6	359.0	399.6	417.0	463.3	463.3	457.5	428.5	393.8	370.6	364.8
82.5°	208.5	196.9	231.6	237.4	272.2	272.2	266.4	243.2	220.1	202.7	202.7
85°	81.1	69.5	92.7	98.4	115.8	115.8	110.0	104.2	86.9	75.3	75.3
87.5°	5.8	5.8	11.6	11.6	17.4	17.4	17.4	11.6	11.6	5.8	5.8
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
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: SP1-2411-284-2

Test Date: 11/20/2024

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

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

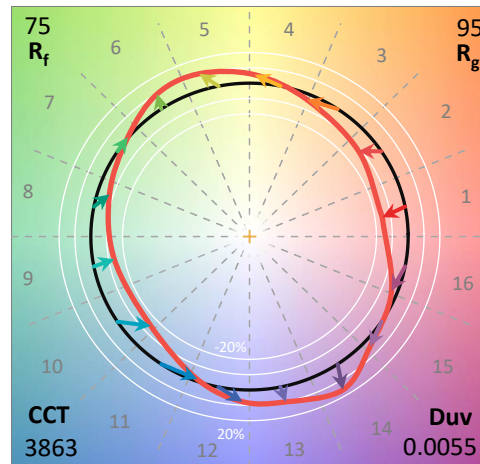
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2411-284-2
 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
 Rf: 74.7
 Rg: 95.4

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



Test Conditions

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

REPORT NUMBER: SP1-2411-284-2

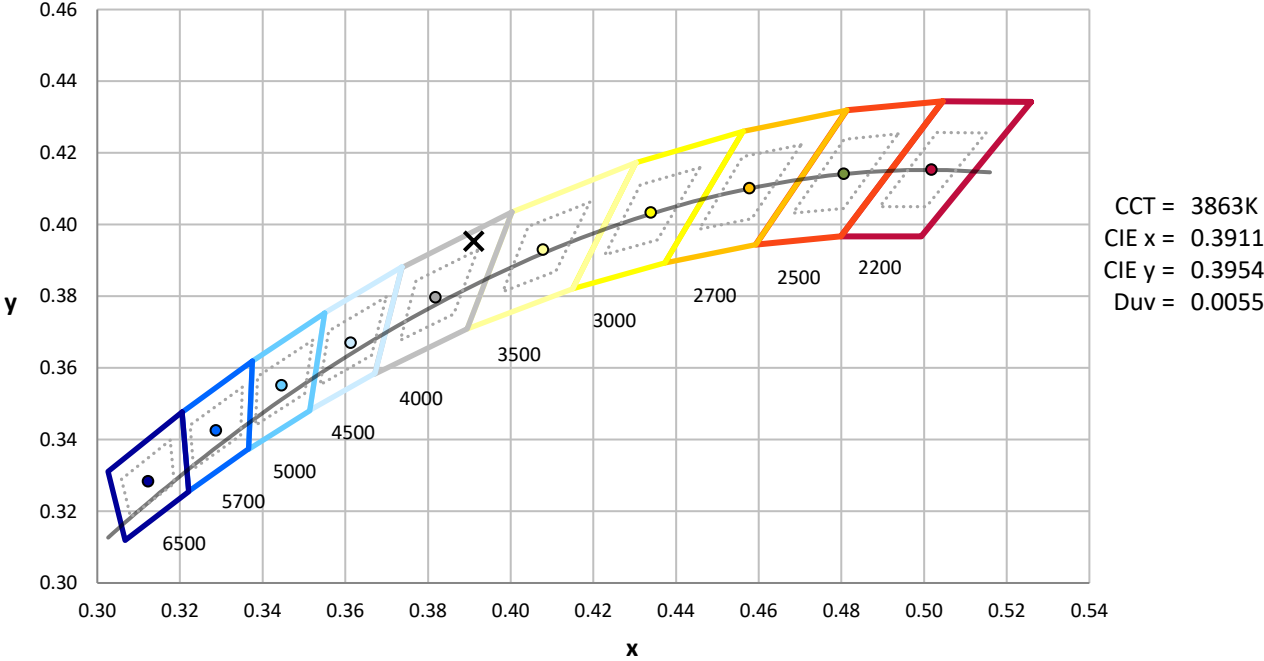
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-2

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



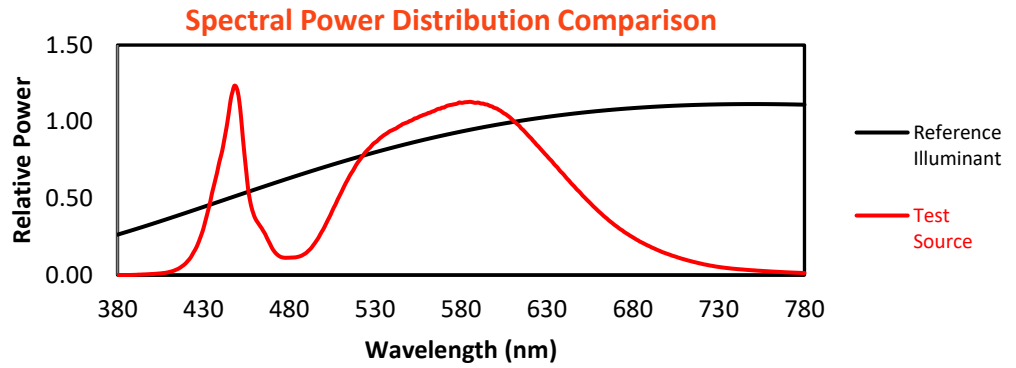
Melanopic Lumens: NR

M/P: 2.72

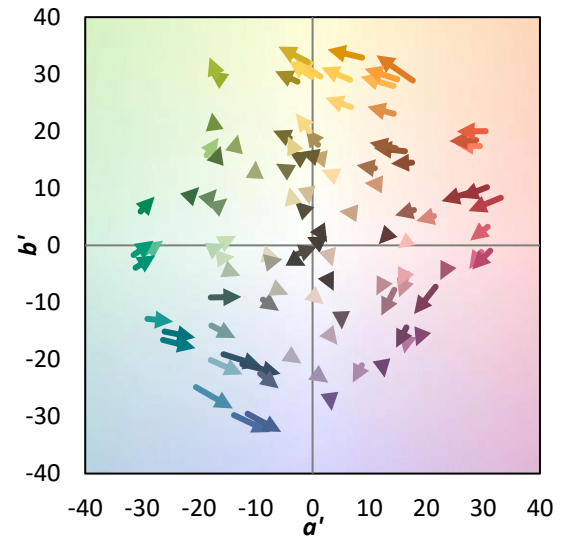
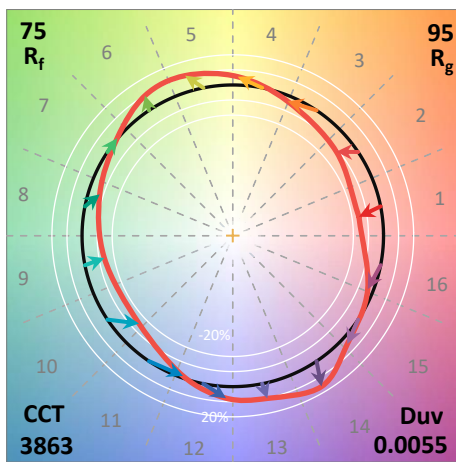
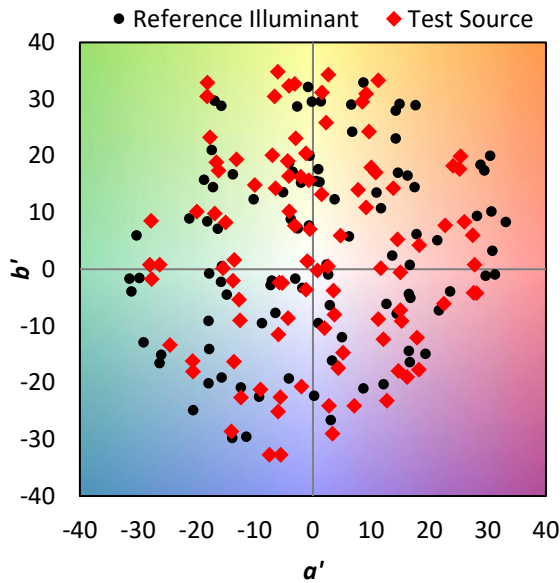
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	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			

Summary

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

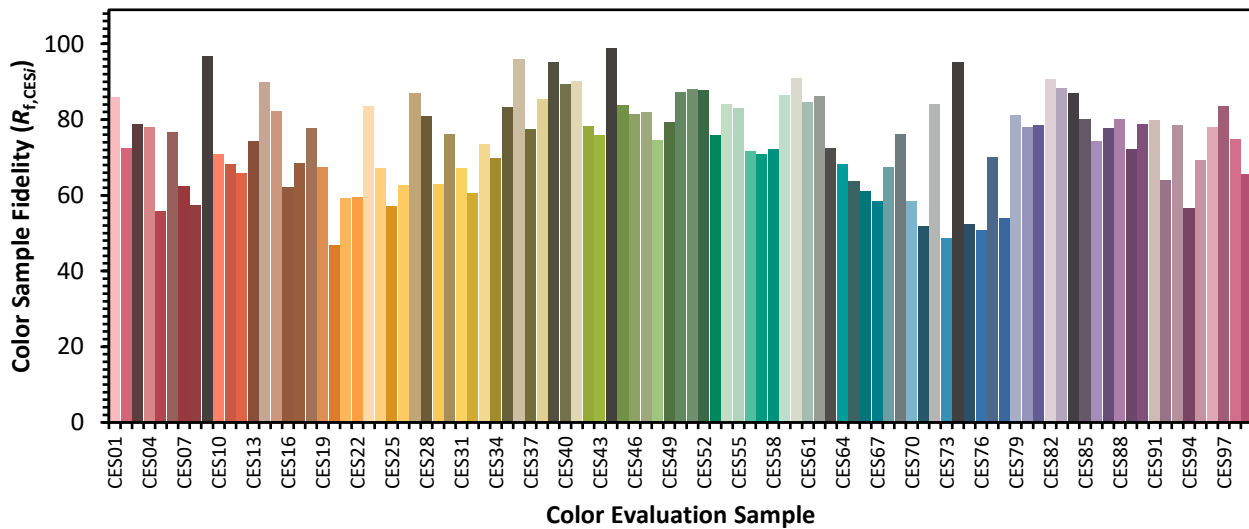


Color Vector Graphics



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

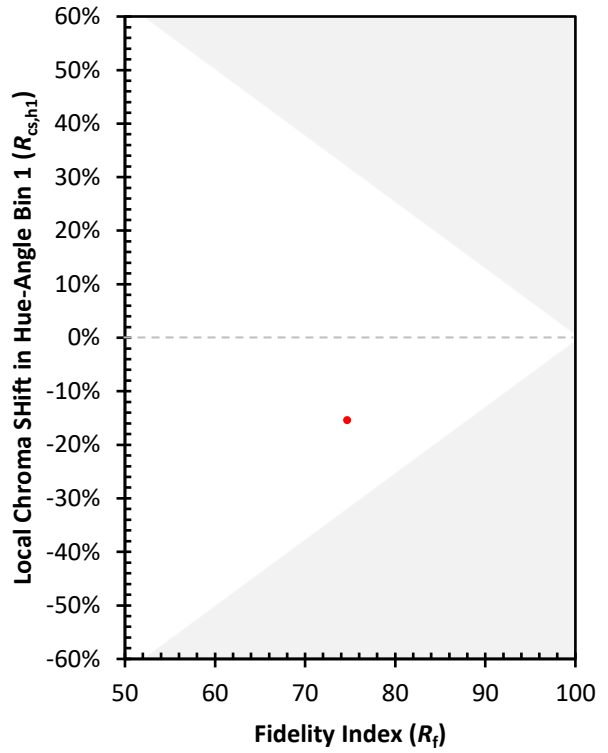
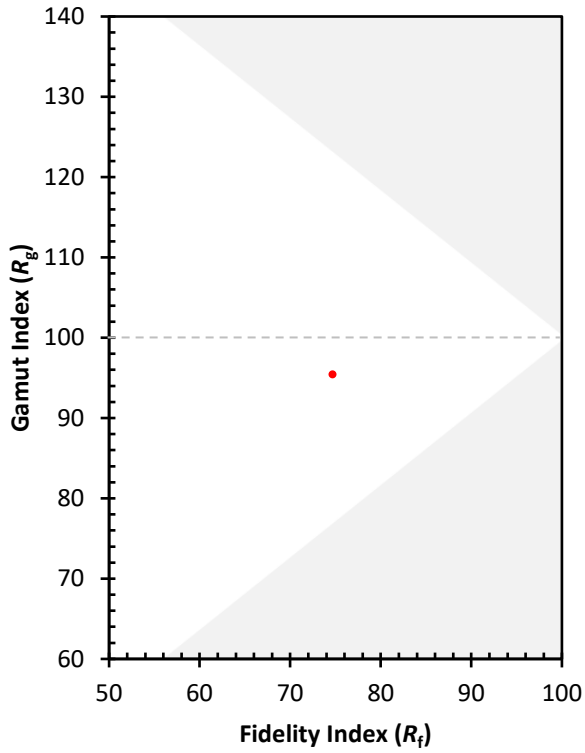
CES01 = 85	CES26 = 63	CES51 = 88	CES76 = 51
CES02 = 61	CES27 = 87	CES52 = 88	CES77 = 70
CES03 = 30	CES28 = 81	CES53 = 76	CES78 = 54
CES04 = 70	CES29 = 63	CES54 = 84	CES79 = 81
CES05 = 47	CES30 = 76	CES55 = 83	CES80 = 78
CES06 = 50	CES31 = 67	CES56 = 72	CES81 = 79
CES07 = 40	CES32 = 61	CES57 = 71	CES82 = 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)