

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: P832683

Luminaire Tested: **TTN-D3-735-U-RW-CG**

Issue Date: 5/14/2024

Test Information

Test Method: LM-79-08
Report Number: P832683
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-14)
Test Lab: INNOVATION CENTER
Issue Date: 5/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TTN-D3-735-U-RW-CG
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE
3500K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION WITH CLEAR GLASS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6098 lumens
Efficiency: N/A
Efficacy: 103.0 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



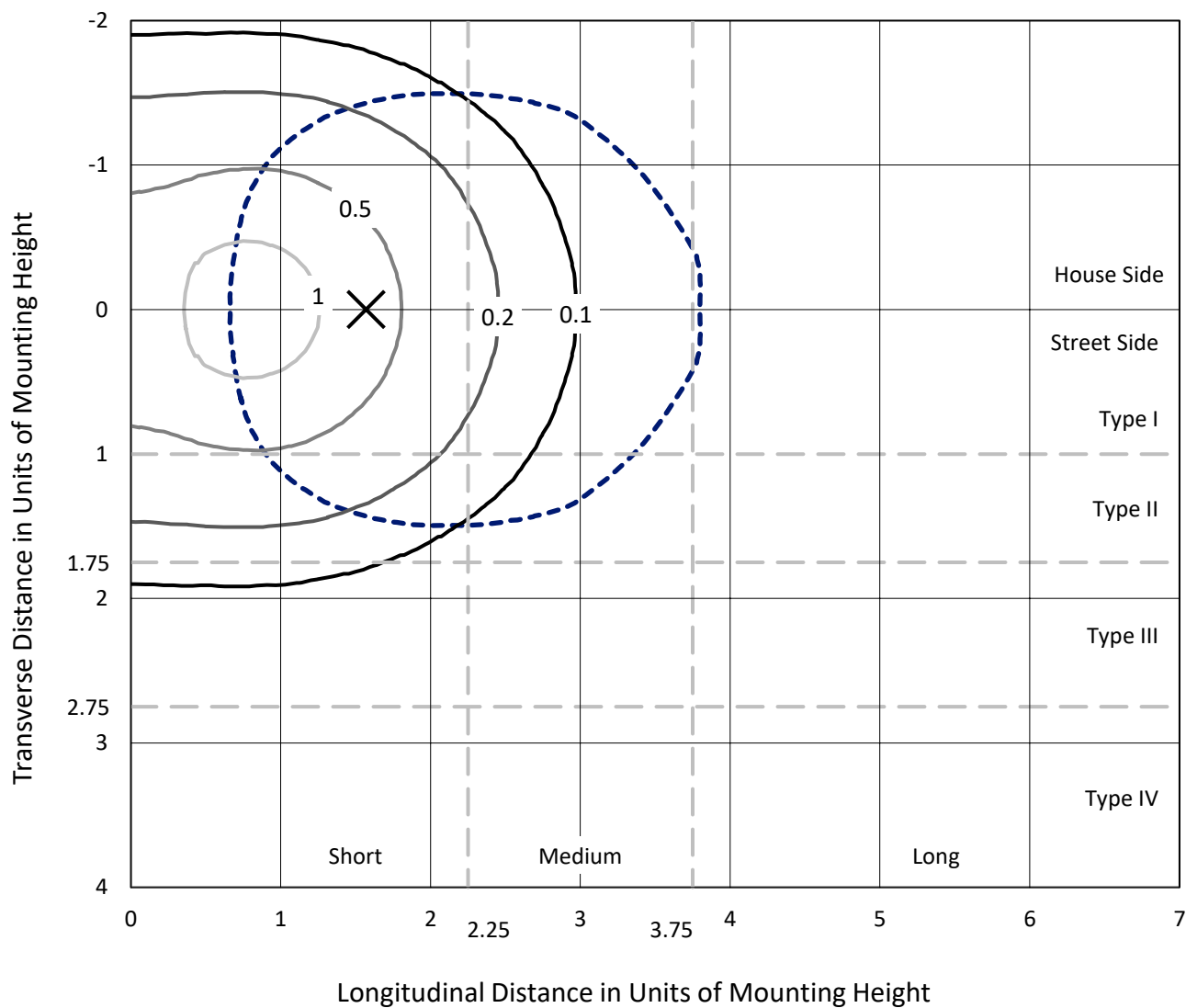
REPORT NUMBER: P832683

CATALOG NUMBER: TTN-D3-735-U-RW-CG

Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

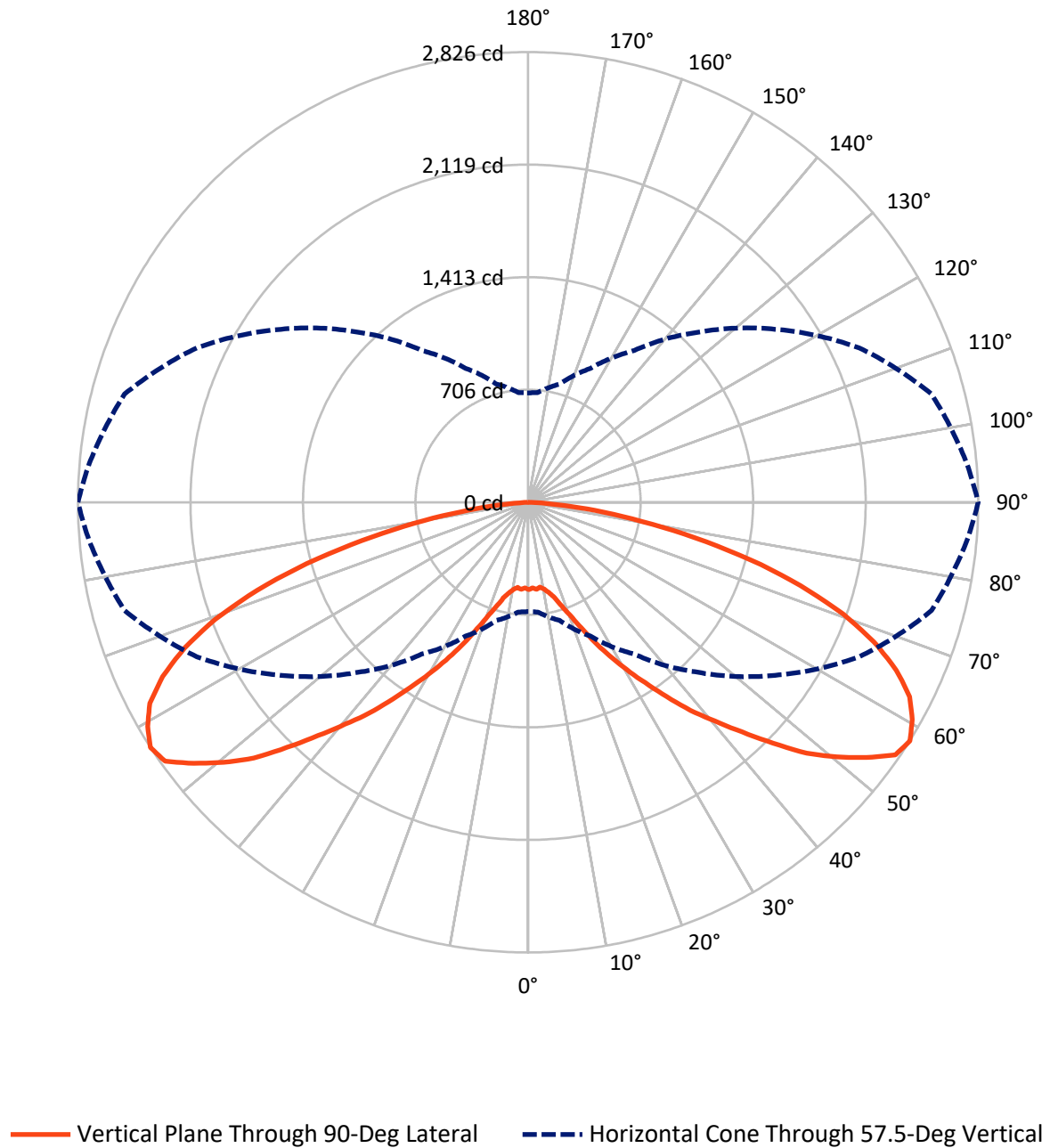


Based on 25 foot mounting height. Maximum calculated value = 1.3 fc
 Type II - Short - N/A

REPORT NUMBER: P832683

CATALOG NUMBER: TTN-D3-735-U-RW-CG

Luminous Intensity Polar Plot



REPORT NUMBER: P832683

CATALOG NUMBER: TTN-D3-735-U-RW-CG

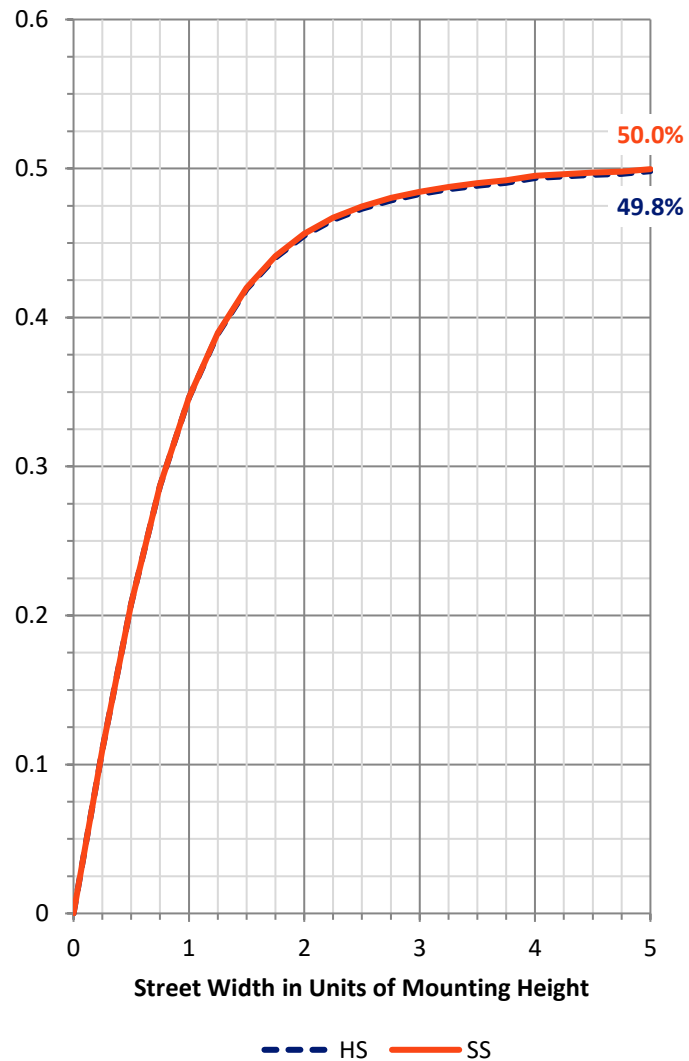
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3049.0	0.0	3049.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3049.0	0.0	3049.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	6098.0	0.0	6098.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	0.9
10°-20°	168.5	2.8
20°-30°	358.6	5.9
30°-40°	661.0	10.8
40°-50°	1064.2	17.5
50°-60°	1440.4	23.6
60°-70°	1400.5	23.0
70°-80°	814.8	13.4
80°-90°	137.7	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°	6098.0	100.0
0°-180°	6098.0	100.0

Coefficient of Utilization



REPORT NUMBER: P832683

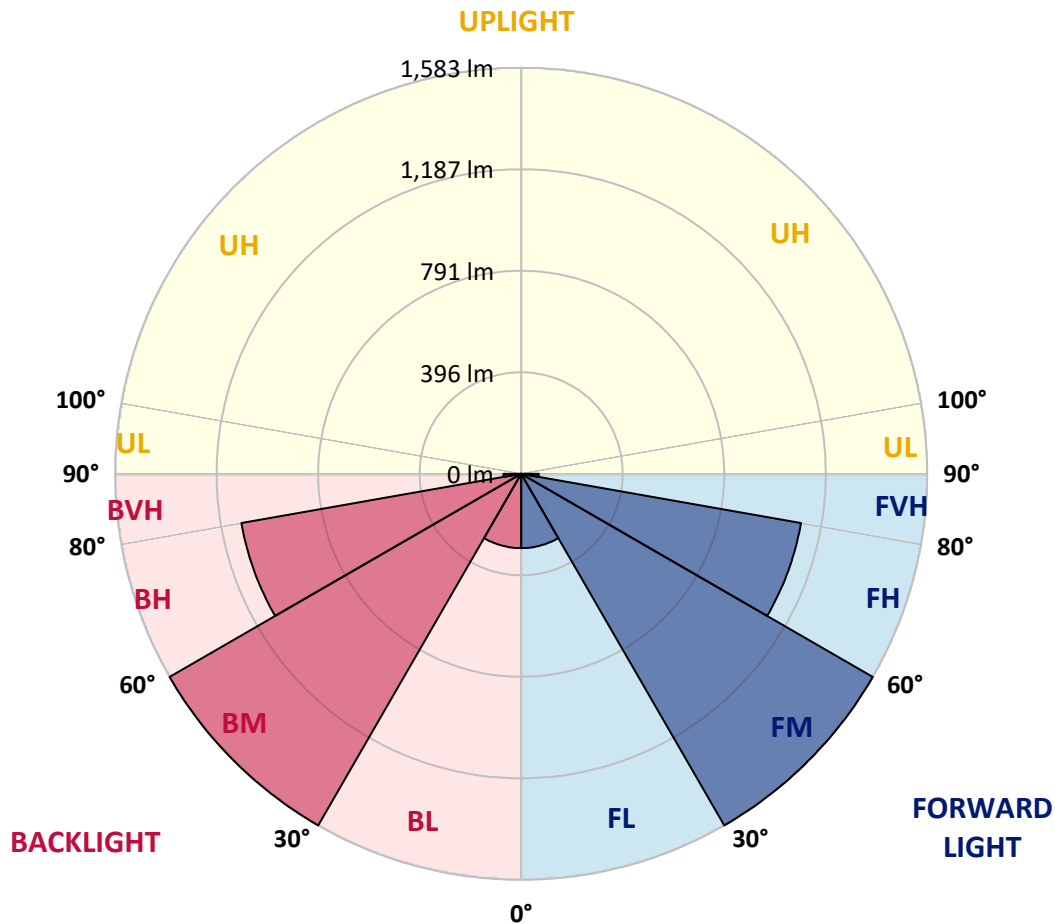
CATALOG NUMBER: TTN-D3-735-U-RW-CG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	289.7	4.8			
FM	(30°-60°)	1582.8	26.0			
FH	(60°-80°)	1107.7	18.2			G1/1800
FVH	(80°-90°)	68.9	1.1			G1/100
BL	(0°-30°)	289.7	4.8	B1/500		
BM	(30°-60°)	1582.8	26.0	B2/2500		
BH	(60°-80°)	1107.7	18.2	B3/2500		G3/2500
BVH	(80°-90°)	68.9	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-G3

Type II Short



REPORT NUMBER: P832683

CATALOG NUMBER: TTN-D3-735-U-RW-CG

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	548.7	548.7	548.7	548.7	548.7	548.7	548.7	548.7	548.7	548.7	548.7
2.5°	548.7	548.7	548.7	548.7	543.2	543.2	543.2	537.7	537.7	537.7	537.7
5°	548.7	548.7	548.7	554.2	554.2	554.2	548.7	548.7	548.7	548.7	548.7
7.5°	548.7	554.2	554.2	548.7	548.7	543.2	543.2	543.2	537.7	537.7	537.7
10°	548.7	548.7	548.7	548.7	543.2	543.2	548.7	548.7	554.2	554.2	554.2
12.5°	543.2	543.2	548.7	548.7	548.7	554.2	565.1	570.6	576.1	581.6	581.6
15°	548.7	548.7	554.2	559.6	565.1	576.1	592.6	609.0	620.0	625.5	620.0
17.5°	548.7	554.2	559.6	570.6	587.1	603.5	631.0	652.9	674.9	680.3	685.8
20°	559.6	559.6	565.1	587.1	614.5	641.9	680.3	718.7	746.2	757.2	757.2
22.5°	565.1	570.6	576.1	603.5	647.4	691.3	746.2	790.1	828.5	850.4	855.9
25°	581.6	581.6	592.6	631.0	685.8	751.7	823.0	888.8	938.2	965.6	971.1
27.5°	592.6	598.0	614.5	663.9	735.2	817.5	916.3	993.1	1053.4	1086.4	1091.8
30°	603.5	609.0	641.9	696.8	784.6	883.3	998.6	1097.3	1174.1	1212.5	1218.0
32.5°	620.0	625.5	663.9	724.2	828.5	949.2	1080.9	1201.6	1311.3	1344.2	1349.7
35°	636.4	641.9	685.8	757.2	877.9	1015.0	1168.7	1311.3	1443.0	1486.9	1497.9
37.5°	652.9	658.4	702.3	790.1	927.2	1086.4	1267.4	1437.5	1580.2	1640.5	1657.0
40°	669.4	674.9	724.2	823.0	976.6	1163.2	1371.7	1558.2	1722.8	1794.1	1805.1
42.5°	680.3	685.8	740.7	850.4	1026.0	1234.5	1481.4	1689.9	1865.5	1958.7	1969.7
45°	696.8	702.3	762.6	888.8	1069.9	1316.8	1585.6	1838.0	2041.0	2145.3	2156.2
47.5°	707.8	713.3	779.1	910.8	1119.3	1393.6	1695.4	1969.7	2211.1	2320.8	2353.8
50°	713.3	718.7	790.1	932.7	1152.2	1448.5	1783.2	2101.4	2359.3	2496.4	2512.9
52.5°	713.3	724.2	795.6	949.2	1174.1	1497.9	1854.5	2211.1	2501.9	2655.5	2661.0
55°	707.8	713.3	790.1	943.7	1185.1	1519.8	1903.9	2277.0	2600.7	2748.8	2798.2
57.5°	685.8	691.3	768.1	927.2	1163.2	1508.8	1892.9	2293.4	2622.6	2765.3	2825.6
60°	652.9	663.9	735.2	888.8	1130.2	1470.4	1860.0	2260.5	2589.7	2765.3	2770.8
62.5°	614.5	620.0	691.3	839.5	1080.9	1410.1	1799.6	2194.7	2512.9	2693.9	2688.5
65°	559.6	565.1	625.5	779.1	993.1	1294.8	1678.9	2090.4	2364.7	2556.8	2540.3
67.5°	499.3	504.8	559.6	696.8	888.8	1168.7	1514.3	1914.8	2156.2	2353.8	2342.8
70°	433.4	433.4	482.8	598.0	779.1	1026.0	1333.3	1684.4	1925.8	2090.4	2095.9
72.5°	356.6	356.6	400.5	499.3	652.9	861.4	1124.8	1437.5	1635.0	1777.7	1788.6
75°	279.8	274.3	312.7	395.0	515.7	685.8	888.8	1157.7	1311.3	1448.5	1443.0
77.5°	197.5	197.5	219.5	285.3	373.1	510.3	658.4	872.4	976.6	1091.8	1069.9
80°	126.2	126.2	137.2	186.5	246.9	340.2	433.4	592.6	663.9	751.7	724.2
82.5°	65.8	60.4	71.3	98.8	131.7	186.5	241.4	345.7	378.6	444.4	422.5
85°	21.9	21.9	21.9	32.9	49.4	71.3	93.3	148.1	153.6	197.5	181.1
87.5°	5.5	0.0	0.0	5.5	5.5	5.5	5.5	16.5	16.5	32.9	21.9
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: SP1-2411-284-1

Test Date: 11/15/2024

Luminaire Tested: TTN-D0-735-U-WQ

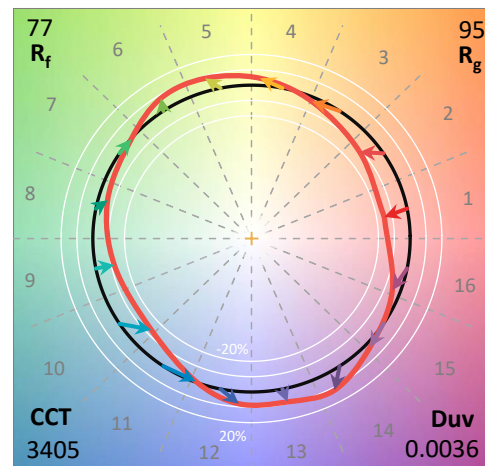
Data in this report applies to TT and TTN families of products

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2411-284-1
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/15/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **TTN-D0-735-U-WQ**
 Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 3500K, 70 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K):	3405	CRI (Ra):	73.9		
CIE u':	0.2365	R1:	71.3	R9:	-18.0
CIE v':	0.5180	R2:	80.3	R10:	53.1
Duv:	0.0036	R3:	87.8	R11:	68.6
CIE x:	0.4148	R4:	73.2	R12:	42.6
CIE y:	0.4038	R5:	69.8	R13:	72.5
CIE z:	0.1814	R6:	71.8	R14:	92.7
Peak Wavelength (nm):	596	R7:	82.8	R15:	64.3
Dominant Wavelength (nm):	579	R8:	54.1		
Purity:	45.70672				
Rf:	76.6				
Rg:	95.4				



Test Conditions

Stabilization Time: 38M
 Operation Time: 1H 38M
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-1

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 3500K 4-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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.33

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	119	NR	620	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.47

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	846	NR	750	28	NR	880	1	NR
365	0	NR	495	160	NR	625	793	NR	755	25	NR	885	0	NR
370	0	NR	500	225	NR	630	739	NR	760	22	NR	890	0	NR
375	0	NR	505	308	NR	635	681	NR	765	19	NR	895	0	NR
380	0	NR	510	392	NR	640	623	NR	770	16	NR	900	0	NR
385	0	NR	515	474	NR	645	563	NR	775	14	NR	905	0	NR
390	0	NR	520	545	NR	650	506	NR	780	12	NR	910	0	NR
395	1	NR	525	603	NR	655	451	NR	785	10	NR	915	0	NR
400	3	NR	530	649	NR	660	399	NR	790	9	NR	920	0	NR
405	5	NR	535	687	NR	665	352	NR	795	8	NR	925	0	NR
410	11	NR	540	721	NR	670	307	NR	800	6	NR	930	0	NR
415	21	NR	545	751	NR	675	268	NR	805	6	NR	935	0	NR
420	43	NR	550	779	NR	680	234	NR	810	5	NR	940	0	NR
425	88	NR	555	811	NR	685	203	NR	815	4	NR	945	0	NR
430	163	NR	560	843	NR	690	176	NR	820	4	NR	950	0	NR
435	288	NR	565	873	NR	695	152	NR	825	3	NR	955	0	NR
440	416	NR	570	907	NR	700	131	NR	830	3	NR	960	0	NR
445	566	NR	575	938	NR	705	112	NR	835	3	NR	965	0	NR
450	810	NR	580	965	NR	710	96	NR	840	2	NR	970	0	NR
455	669	NR	585	986	NR	715	81	NR	845	2	NR	975	0	NR
460	338	NR	590	997	NR	720	69	NR	850	2	NR	980	0	NR
465	246	NR	595	997	NR	725	58	NR	855	1	NR	985	0	NR
470	182	NR	600	991	NR	730	49	NR	860	1	NR	990	0	NR
475	115	NR	605	968	NR	735	42	NR	865	1	NR	995	0	NR
480	97	NR	610	939	NR	740	37	NR	870	1	NR	1000	0	NR
485	103	NR	615	896	NR	745	32	NR	875	1	NR			

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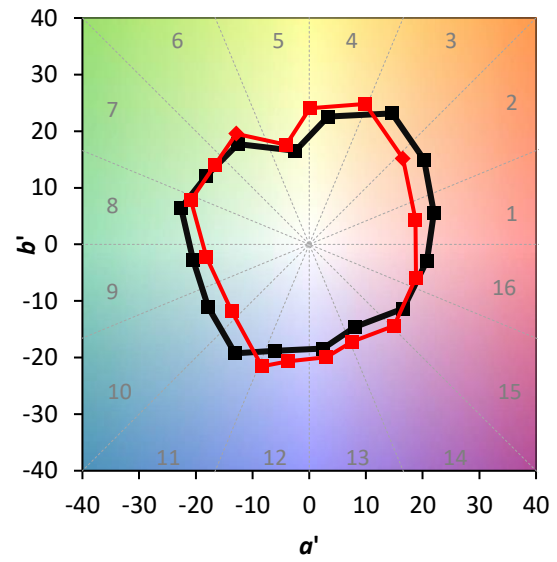
TM-30-18

Summary

$R_f = 76.6$
 $R_g = 95.4$
 $CIE R_a = 73.9$
 $R_g = -18.0$



Color Vector Graphics

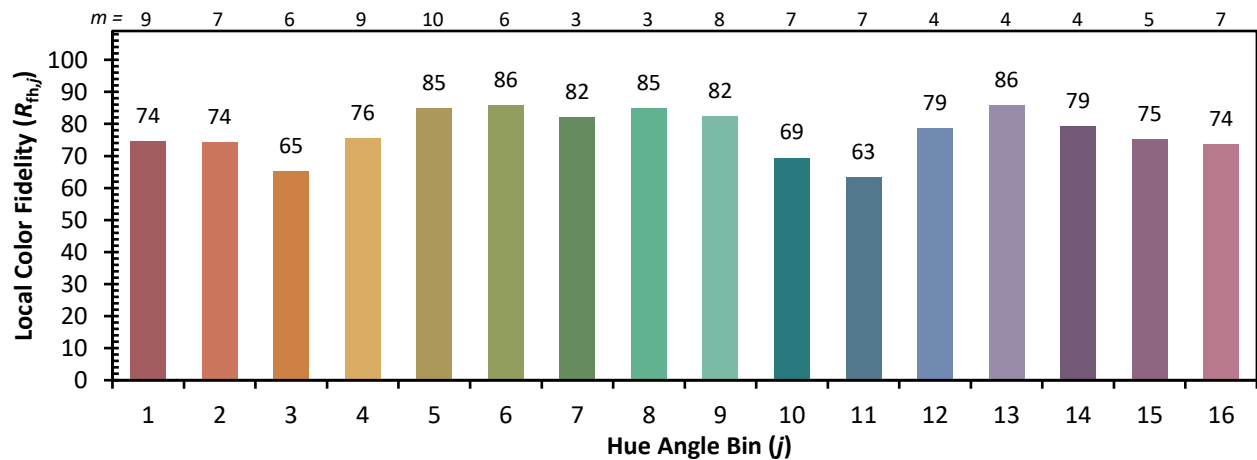
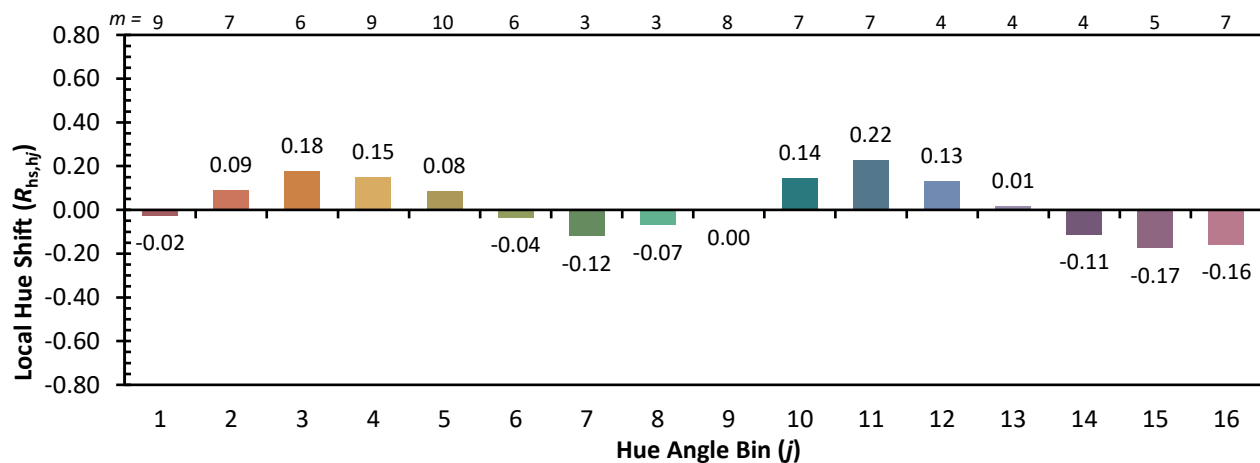
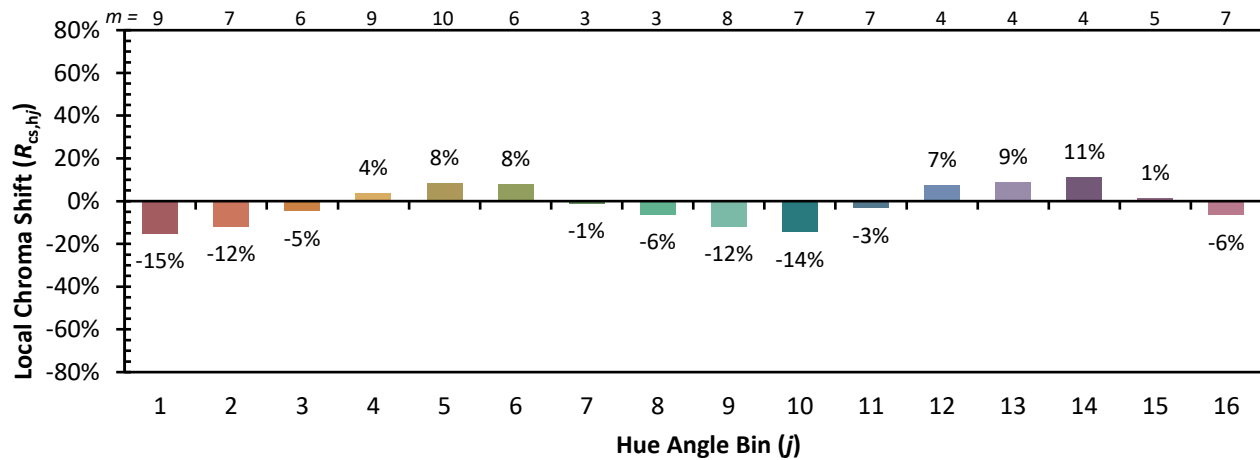


Individual Sample Fidelity Index ($R_{f,i}$)

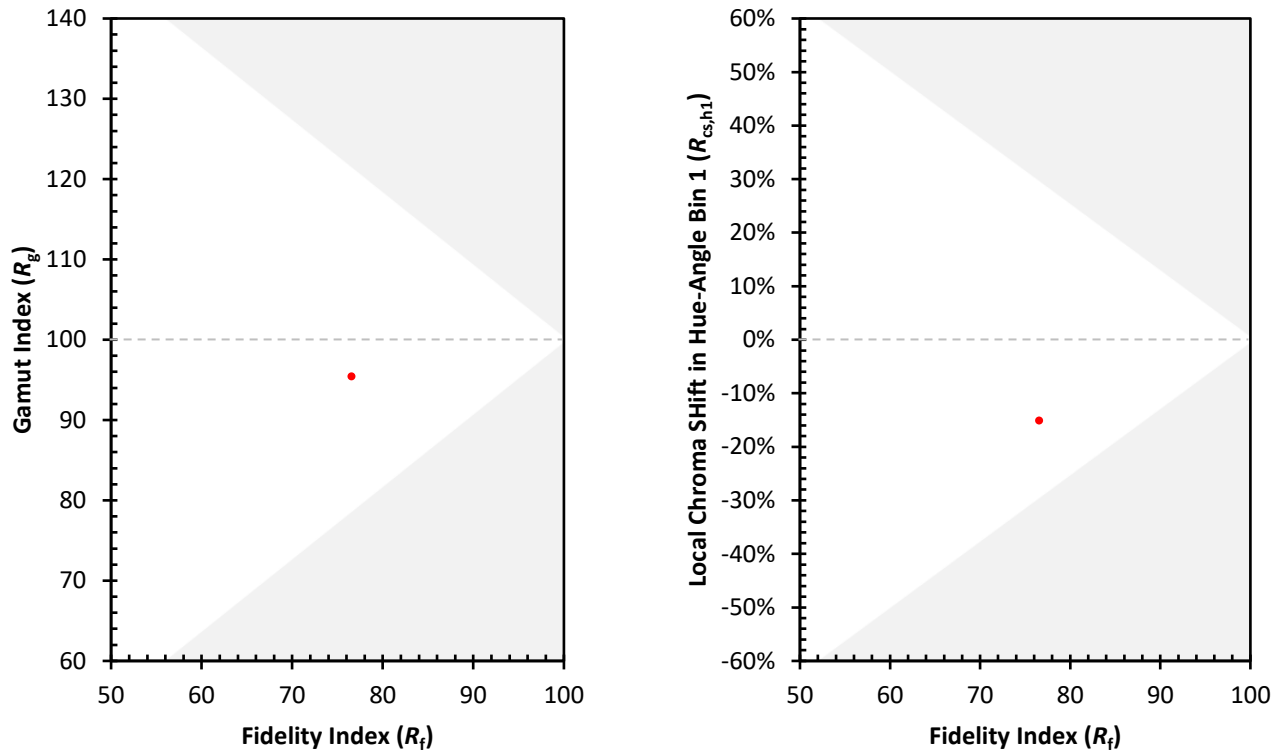
CES01 = 86	CES26 = 67	CES51 = 88	CES76 = 56
CES02 = 62	CES27 = 89	CES52 = 88	CES77 = 75
CES03 = 31	CES28 = 83	CES53 = 78	CES78 = 60
CES04 = 70	CES29 = 69	CES54 = 86	CES79 = 85
CES05 = 48	CES30 = 83	CES55 = 85	CES80 = 82
CES06 = 51	CES31 = 72	CES56 = 75	CES81 = 78
CES07 = 41	CES32 = 65	CES57 = 75	CES82 = 92
CES08 = 40	CES33 = 78	CES58 = 76	CES83 = 90
CES09 = 29	CES34 = 74	CES59 = 87	CES84 = 88
CES10 = 75	CES35 = 86	CES60 = 91	CES85 = 79
CES11 = 58	CES36 = 93	CES61 = 84	CES86 = 72
CES12 = 64	CES37 = 81	CES62 = 88	CES87 = 79
CES13 = 43	CES38 = 92	CES63 = 74	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 69	CES89 = 72
CES15 = 71	CES40 = 92	CES65 = 66	CES90 = 82
CES16 = 47	CES41 = 93	CES66 = 62	CES91 = 79
CES17 = 50	CES42 = 83	CES67 = 60	CES92 = 63
CES18 = 56	CES43 = 79	CES68 = 68	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 76	CES94 = 56
CES20 = 65	CES45 = 86	CES70 = 61	CES95 = 70
CES21 = 86	CES46 = 83	CES71 = 55	CES96 = 79
CES22 = 79	CES47 = 85	CES72 = 85	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 53	CES98 = 78
CES24 = 91	CES49 = 81	CES74 = 95	CES99 = 68
CES25 = 72	CES50 = 88	CES75 = 57	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)