

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: P832635

Luminaire Tested: **TTN-D2-750-U-WQ-SG**

Issue Date: 5/14/2024

Test Information

Test Method: LM-79-08
Report Number: P832635
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-254-16)
Test Lab: INNOVATION CENTER
Issue Date: 5/14/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: TTN-D2-750-U-WQ-SG
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE
5000K, 70 CRI LEDS AND WIDE DISTRIBUTION WITH SOLITE GLASS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4921 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Luminous Opening: Circular (Dia: 0.71' x H: 0')
IES Classification: Type V - Short
BUG Rating: B2 - U0 - G1

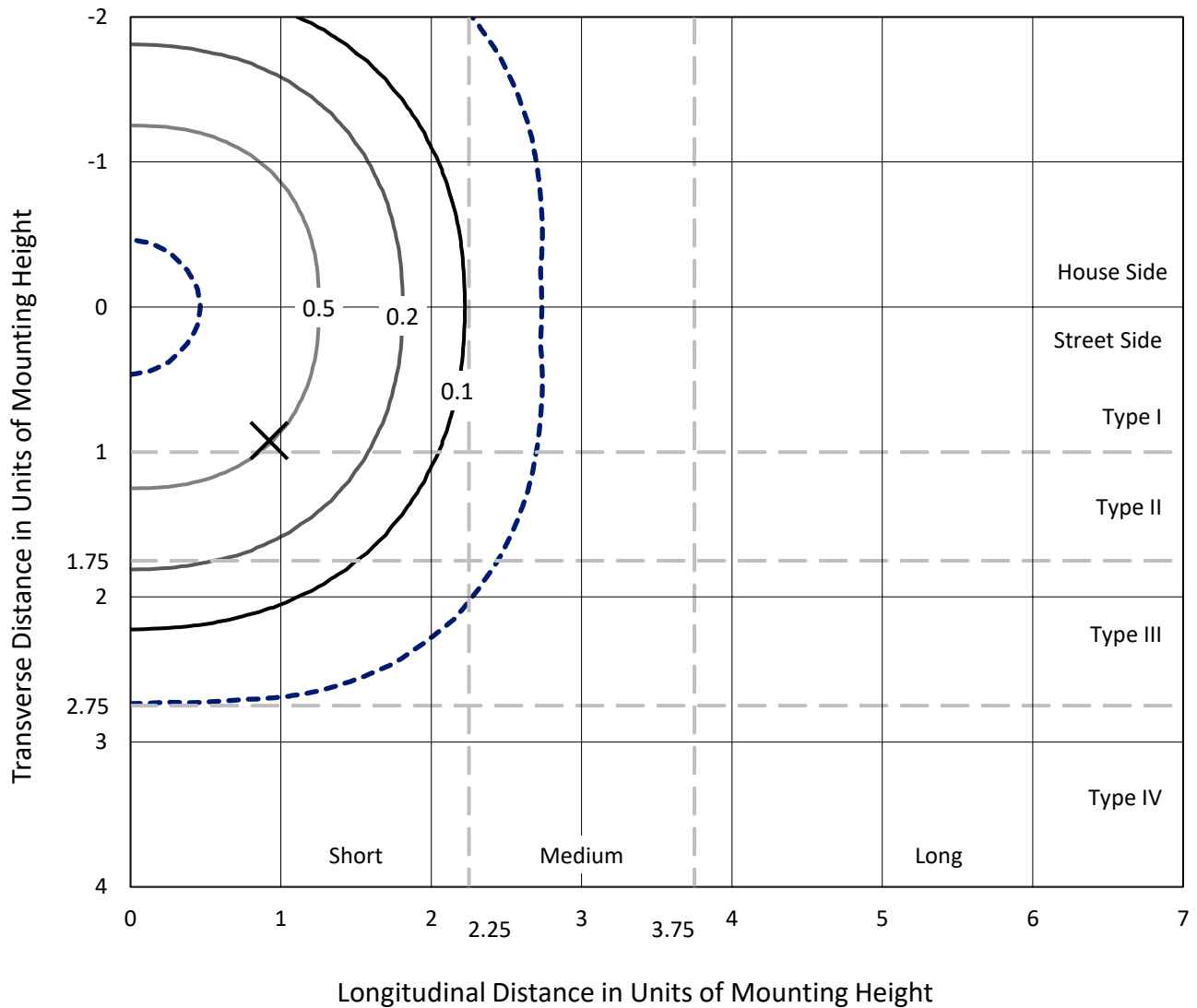
Input Watts (W): 42.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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 CATALOG NUMBER: TTN-D2-750-U-WQ-SG

Iso-Footcandle Lines of Horizontal Illumination

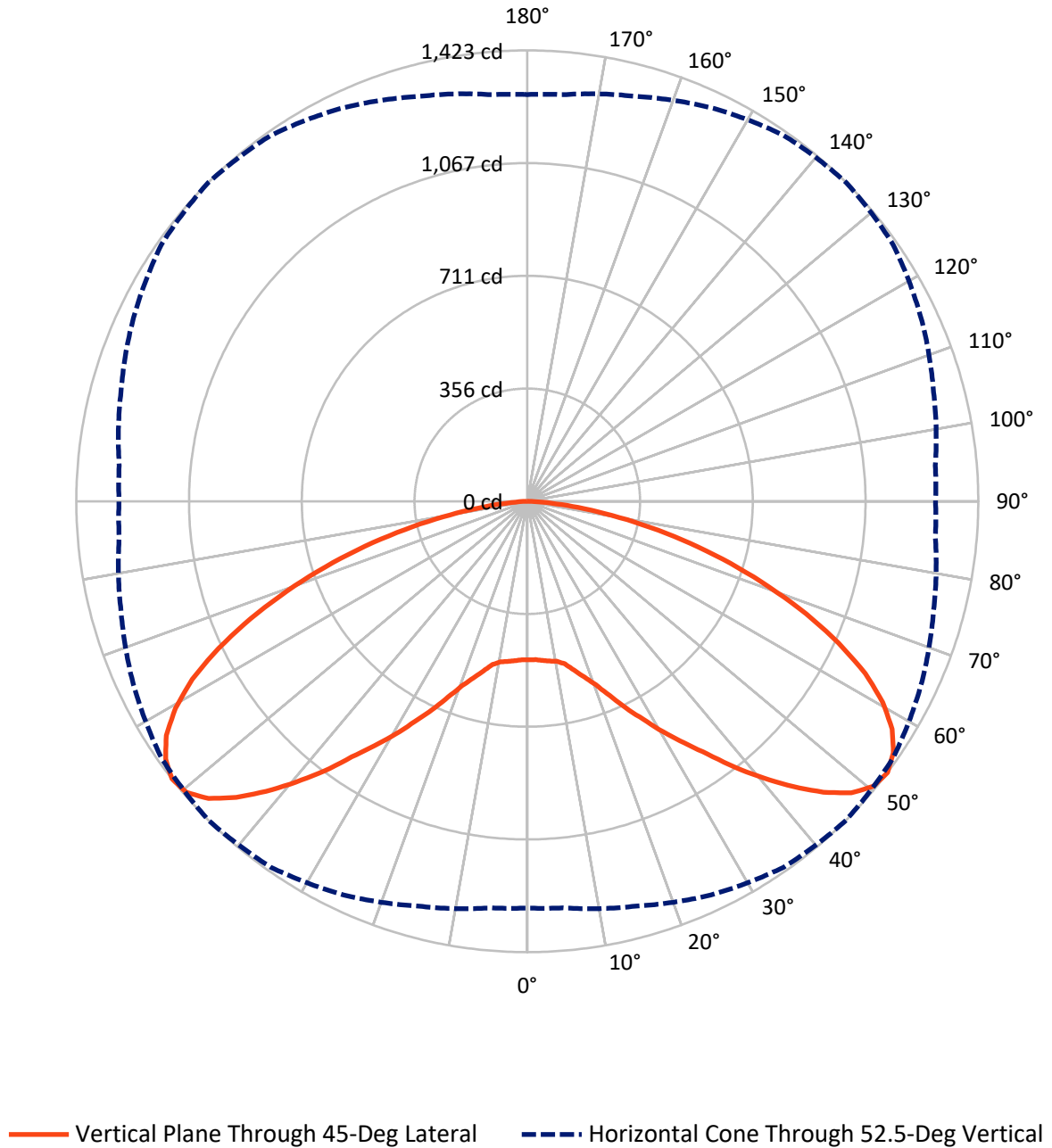
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc
 Type V - Short - N/A

REPORT NUMBER: P832635
CATALOG NUMBER: TTN-D2-750-U-WQ-SG

Luminous Intensity Polar Plot



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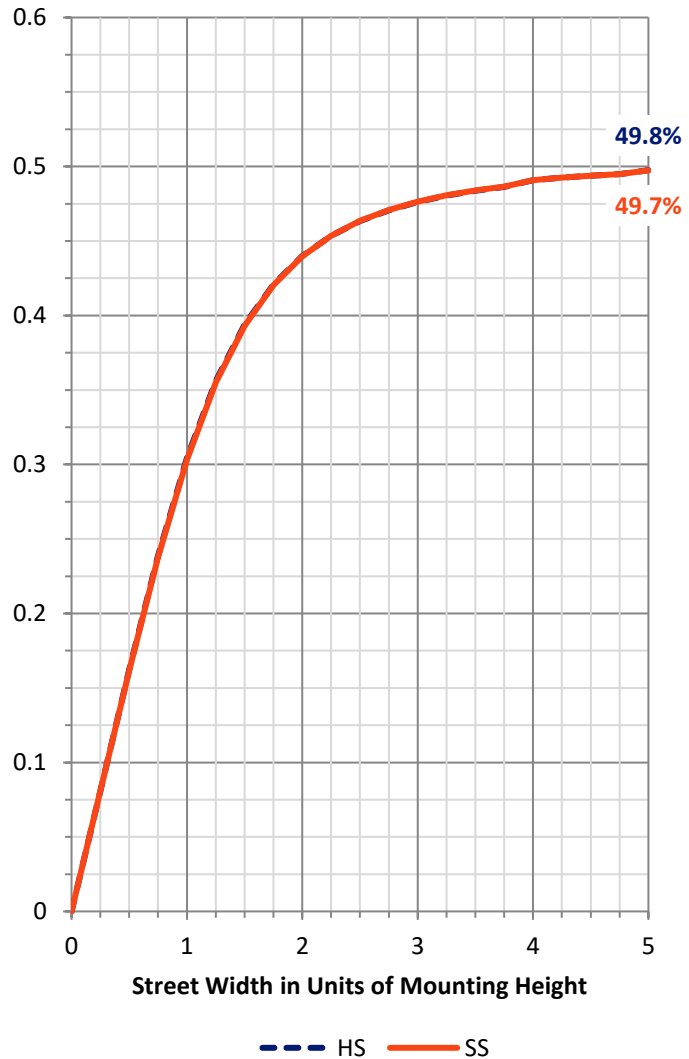
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2460.5	0.0	2460.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	2460.5	0.0	2460.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	4921.0	0.0	4921.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.3	1.0
10°-20°	158.8	3.2
20°-30°	335.1	6.8
30°-40°	612.2	12.4
40°-50°	974.6	19.8
50°-60°	1178.5	23.9
60°-70°	990.9	20.1
70°-80°	525.3	10.7
80°-90°	97.2	2.0
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°	4921.0	100.0
0°-180°	4921.0	100.0

Coefficient of Utilization



REPORT NUMBER: P832635

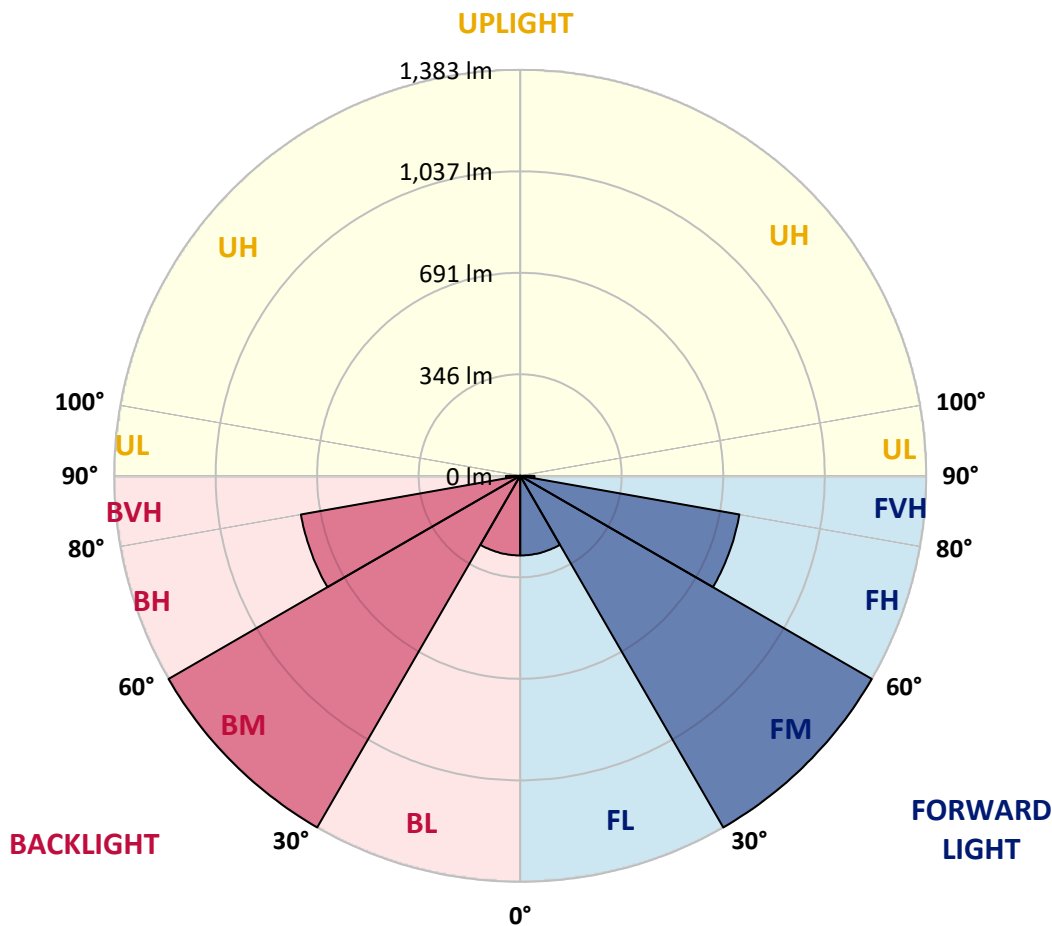
CATALOG NUMBER: TTN-D2-750-U-WQ-SG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	271.1	5.5			
FM (30°-60°)	1382.7	28.1			
FH (60°-80°)	758.1	15.4			G1/1800
FVH (80°-90°)	48.6	1.0			G1/100
BL (0°-30°)	271.1	5.5	B1/500		
BM (30°-60°)	1382.7	28.1	B2/2500		
BH (60°-80°)	758.1	15.4	B2/1000		G1/1800
BVH (80°-90°)	48.6	1.0			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3
2.5°	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3	500.3
5°	504.7	504.7	500.3	504.7	504.7	504.7	504.7	504.7	504.7	504.7	504.7
7.5°	504.7	504.7	504.7	509.0	509.0	509.0	509.0	504.7	504.7	504.7	504.7
10°	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4	513.4
12.5°	526.4	526.4	526.4	526.4	526.4	526.4	526.4	526.4	526.4	526.4	526.4
15°	548.2	548.2	548.2	548.2	552.5	552.5	552.5	548.2	548.2	548.2	548.2
17.5°	574.3	574.3	578.6	578.6	583.0	583.0	583.0	578.6	574.3	578.6	574.3
20°	613.4	613.4	613.4	617.8	622.1	617.8	622.1	613.4	613.4	613.4	613.4
22.5°	656.9	656.9	656.9	661.3	665.6	665.6	665.6	656.9	656.9	656.9	656.9
25°	709.1	709.1	709.1	713.5	717.8	722.2	722.2	713.5	709.1	709.1	704.8
27.5°	761.3	761.3	770.0	774.4	778.7	778.7	778.7	770.0	765.7	765.7	765.7
30°	822.2	822.2	830.9	835.3	844.0	844.0	844.0	830.9	826.6	822.2	822.2
32.5°	878.8	883.1	891.8	900.5	909.3	909.3	913.6	896.2	887.5	883.1	883.1
35°	939.7	944.1	952.8	965.8	974.5	978.9	983.2	965.8	952.8	948.4	948.4
37.5°	1009.3	1013.7	1026.7	1039.8	1057.2	1065.9	1070.2	1044.1	1022.4	1013.7	1013.7
40°	1087.6	1092.0	1105.0	1122.4	1139.8	1148.5	1152.9	1126.8	1105.0	1096.3	1092.0
42.5°	1152.9	1161.6	1174.6	1200.7	1218.1	1231.2	1231.2	1200.7	1174.6	1161.6	1161.6
45°	1213.8	1222.5	1244.2	1270.3	1296.4	1309.5	1305.1	1274.7	1244.2	1226.8	1222.5
47.5°	1261.6	1270.3	1296.4	1326.9	1361.7	1374.8	1370.4	1335.6	1296.4	1274.7	1270.3
50°	1287.7	1292.1	1322.5	1366.1	1400.9	1413.9	1405.2	1370.4	1326.9	1296.4	1292.1
52.5°	1283.4	1287.7	1322.5	1370.4	1409.6	1422.6	1409.6	1370.4	1326.9	1292.1	1287.7
55°	1257.3	1261.6	1296.4	1348.6	1387.8	1400.9	1387.8	1348.6	1300.8	1266.0	1261.6
57.5°	1209.4	1213.8	1248.6	1300.8	1344.3	1357.3	1339.9	1296.4	1248.6	1213.8	1213.8
60°	1139.8	1144.2	1179.0	1235.5	1274.7	1287.7	1266.0	1231.2	1183.3	1144.2	1139.8
62.5°	1048.5	1048.5	1087.6	1144.2	1179.0	1196.4	1174.6	1135.5	1092.0	1048.5	1052.8
65°	939.7	935.4	974.5	1026.7	1065.9	1078.9	1057.2	1022.4	978.9	939.7	939.7
67.5°	826.6	826.6	857.0	900.5	935.4	948.4	926.7	896.2	861.4	826.6	826.6
70°	704.8	704.8	726.5	770.0	800.5	809.2	796.1	765.7	735.2	704.8	704.8
72.5°	583.0	578.6	600.4	635.2	661.3	670.0	656.9	639.5	604.7	583.0	583.0
75°	461.2	456.8	469.9	500.3	522.1	530.8	517.7	504.7	478.6	461.2	461.2
77.5°	343.7	339.3	352.4	378.5	391.5	395.9	387.2	378.5	356.7	343.7	343.7
80°	234.9	230.6	239.3	256.7	269.7	269.7	265.4	261.0	243.6	234.9	239.3
82.5°	139.2	134.9	143.6	156.6	165.3	161.0	161.0	156.6	143.6	139.2	139.2
85°	60.9	56.6	60.9	69.6	78.3	74.0	74.0	74.0	65.3	60.9	60.9
87.5°	8.7	8.7	8.7	13.1	17.4	13.1	13.1	13.1	8.7	8.7	8.7
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: SP1-2411-284-3

Test Date: 11/21/2024

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

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

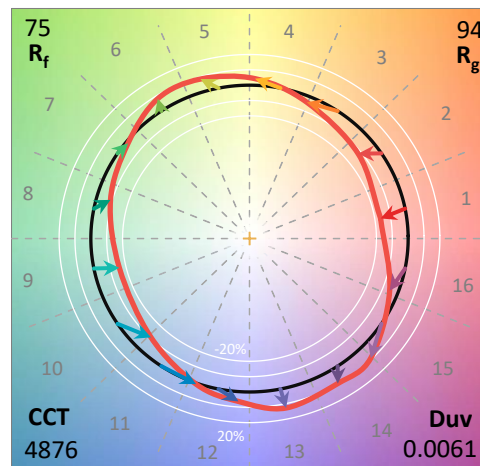
Test Information

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

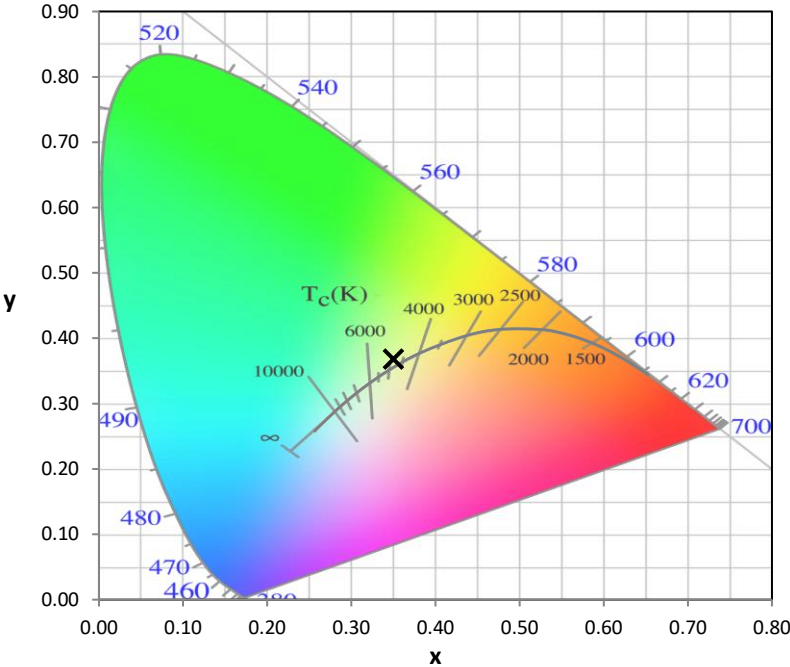
Stabilization Time: 51M
 Operation Time: 1H 51M
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2411-284-3

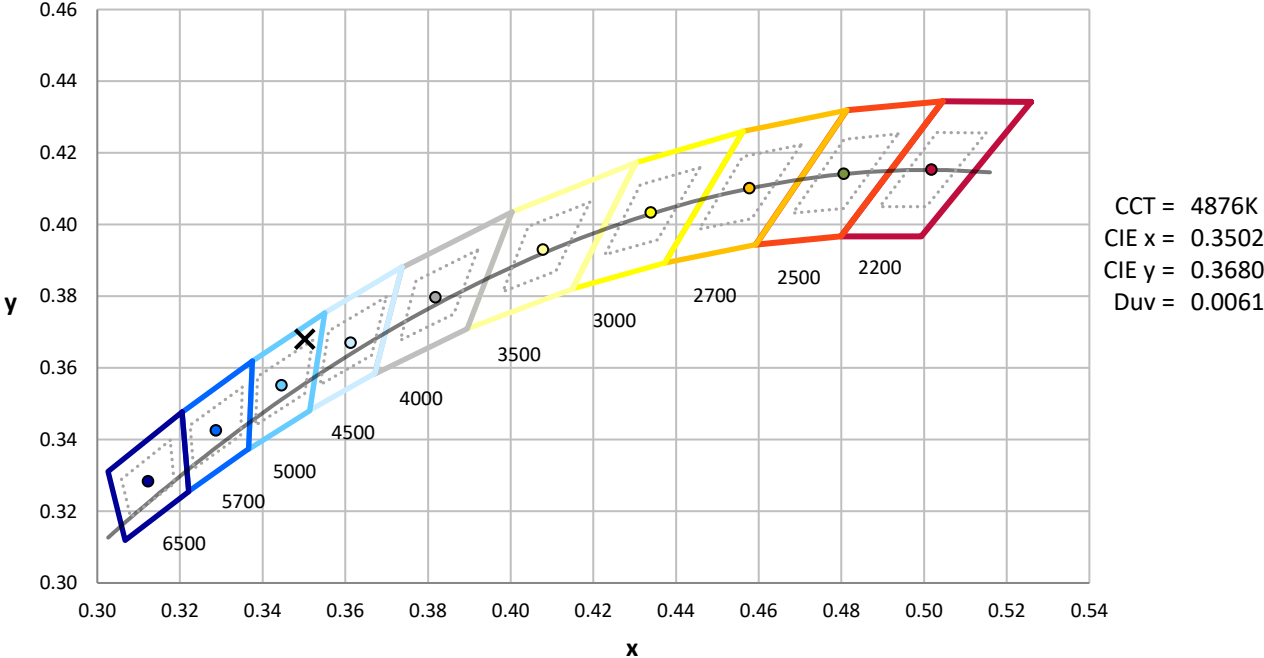
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-3

Scotopic Flux vs. Wavelength



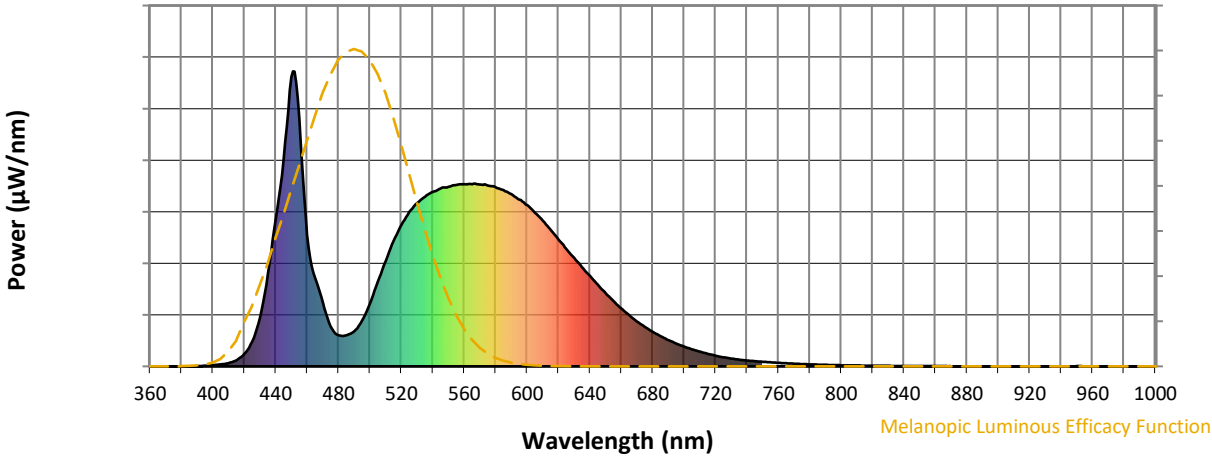
Scotopic Lumens: NR

S/P: 1.74

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	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



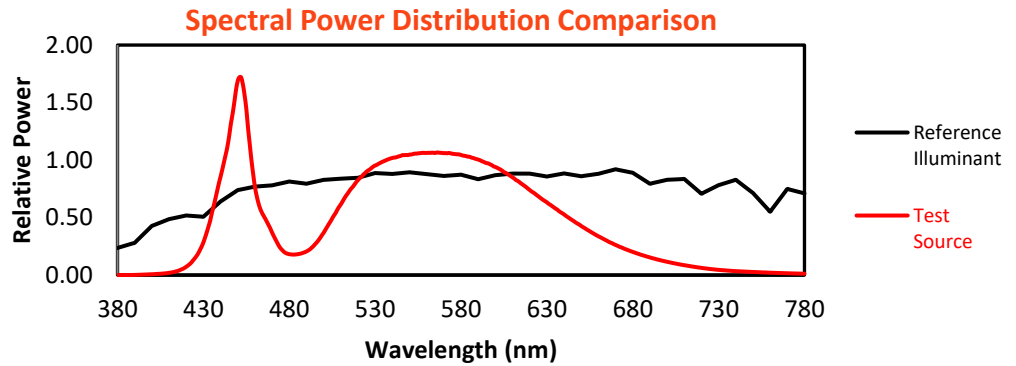
Melanopic Lumens: NR

M/P: 3.51

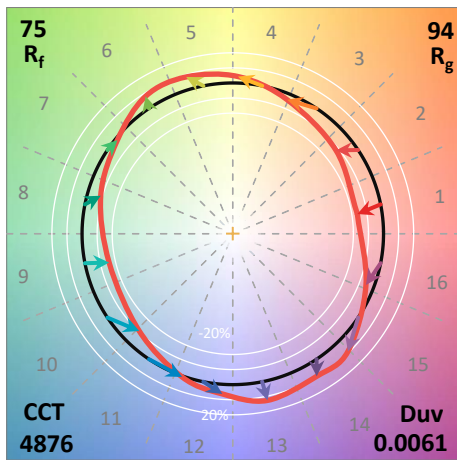
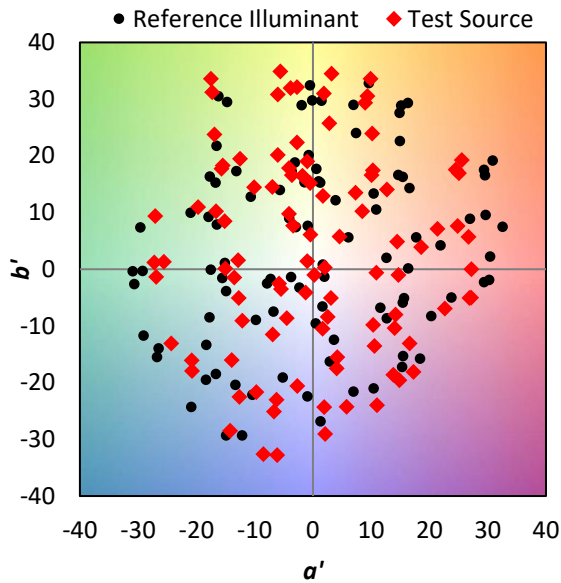
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625	398	NR	755	14	NR	885	0	NR
370	0	NR	500	214	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

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

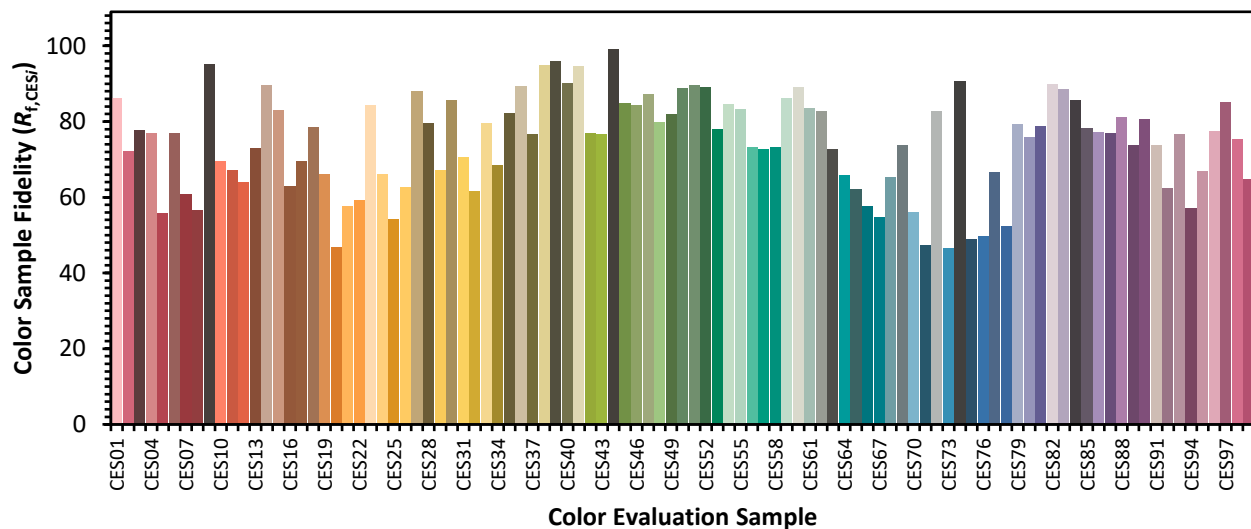


Color Vector Graphics

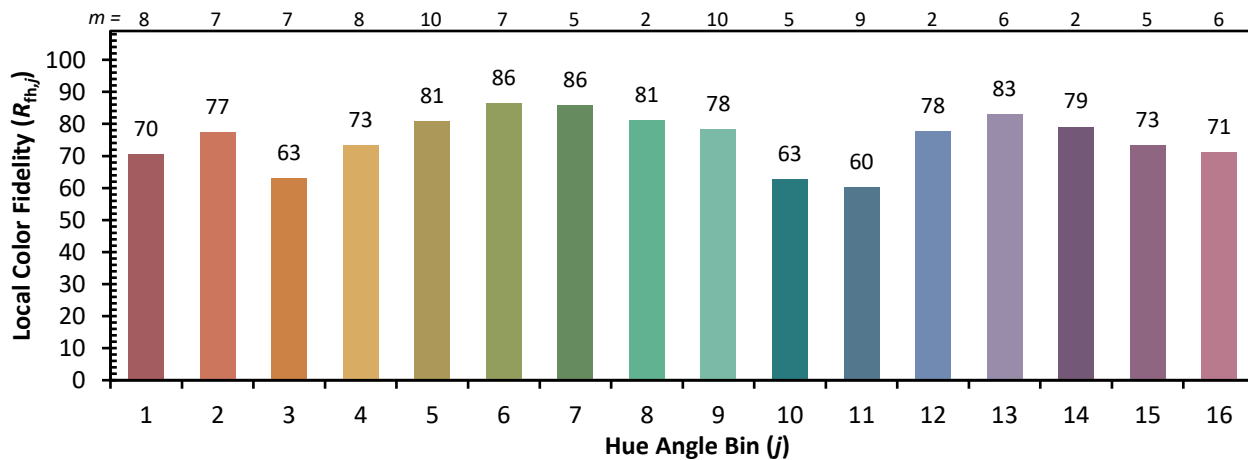
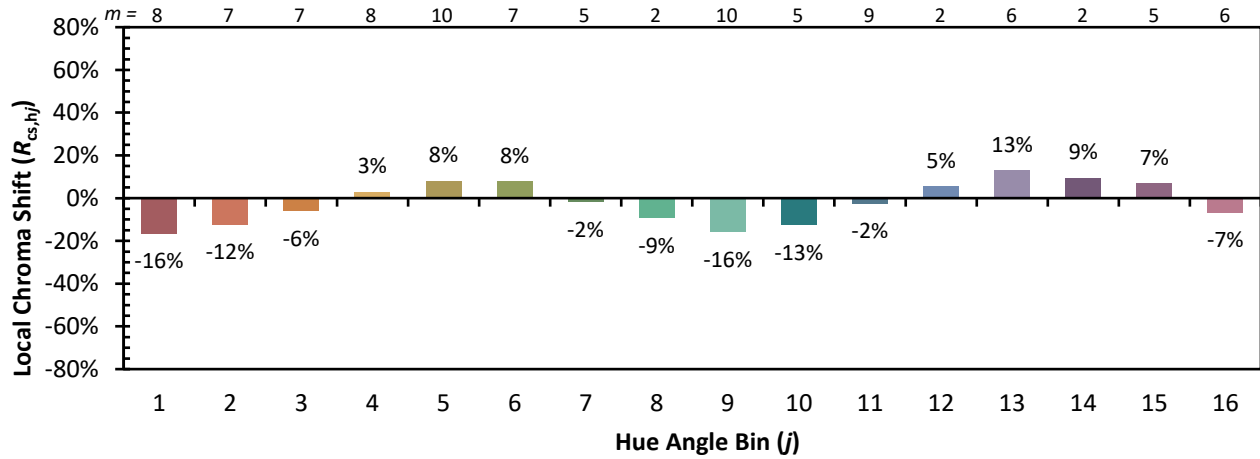


Individual Sample Fidelity Index ($R_{f,i}$)

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)