

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: P833581

Luminaire Tested: **TTN-D2-750-U-CQ-UPL1**

Issue Date: 5/15/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P833581  
REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G3-2308-121-4) AND  
Test Lab: INNOVATION CENTER  
Issue Date: 5/15/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TTN-D2-750-U-CQ-UPL1  
Description: TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT  
5000K, 70 CRI LEDS AND CONCENTRATED DISTRIBUTION  
Light Source: -  
Ballast/Driver: -

**Summary**

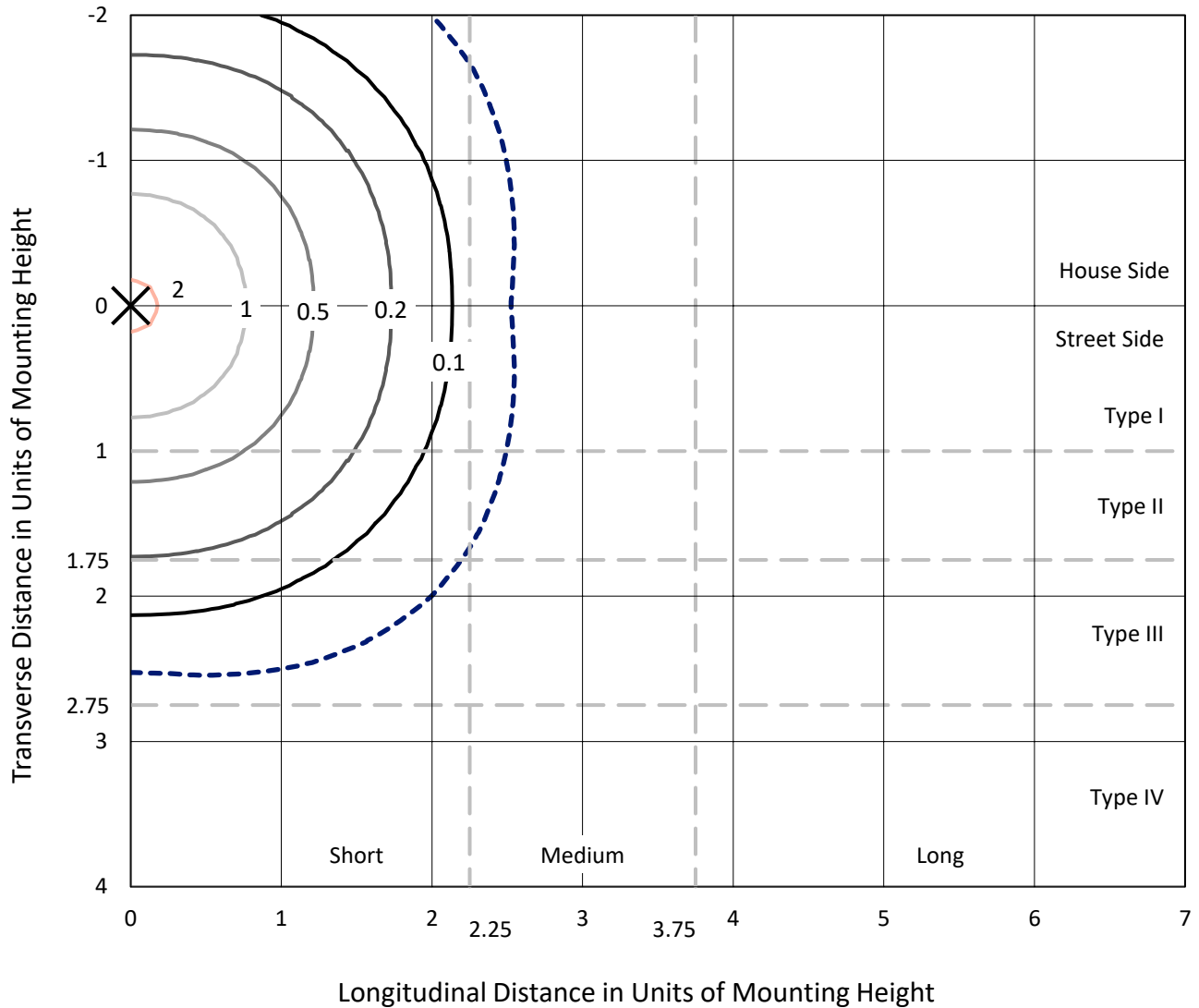
Lumens per Lamp: N/A  
Luminaire Lumens: 5639.9 lumens  
Efficiency: N/A  
Efficacy: 125.1 lumens/watt  
Luminous Opening: Vertical Cylinder (Dia: 0.71' x H: 0.1')  
IES Classification: Type V - Short  
BUG Rating: B2 - U3 - G1  
  
Input Watts (W): 45.1  
Input Voltage (V): NR  
Input Current (Ain): 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: P833581  
 CATALOG NUMBER: TTN-D2-750-U-CQ-UPL1

### Iso-Footcandle Lines of Horizontal Illumination

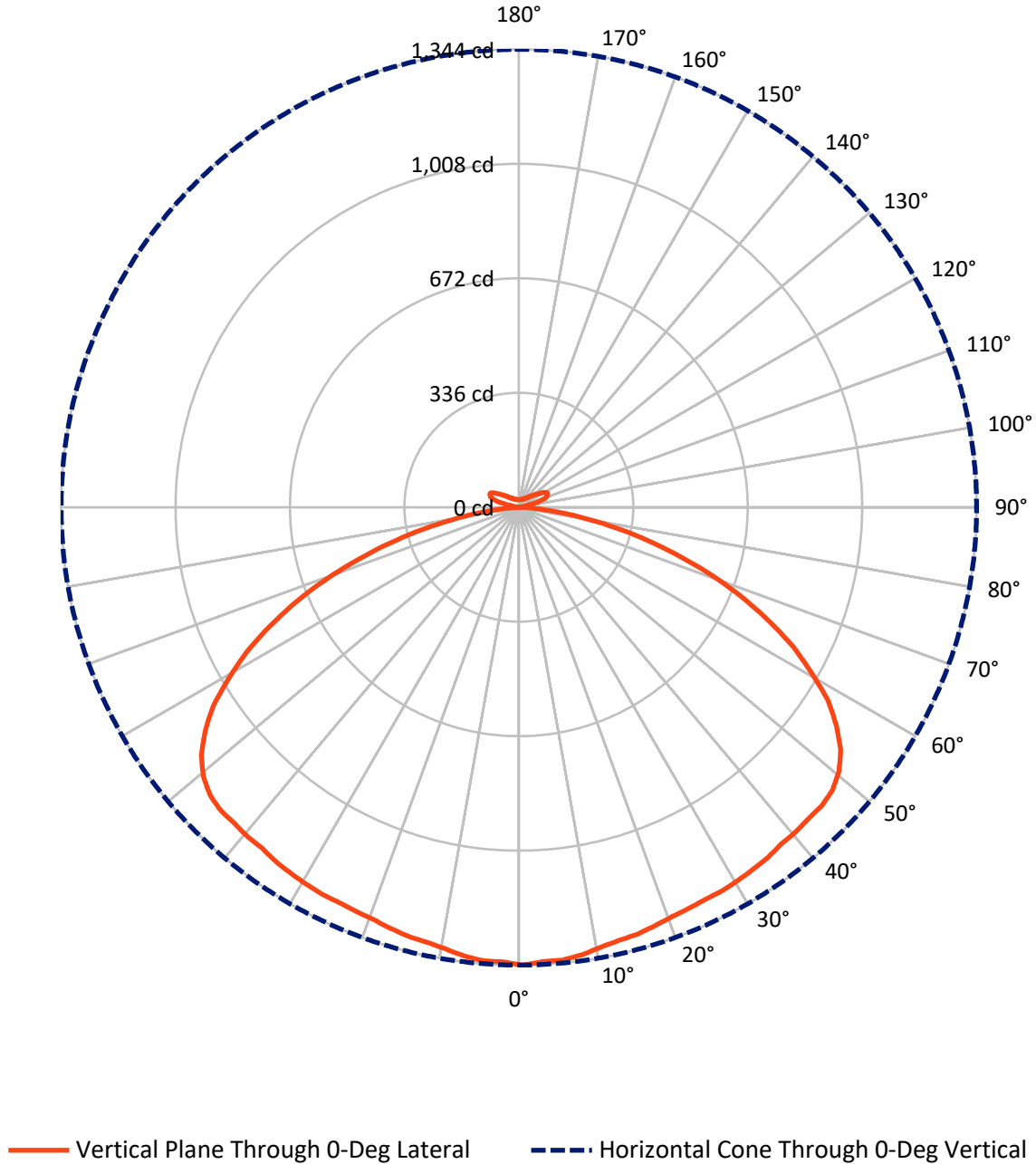
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



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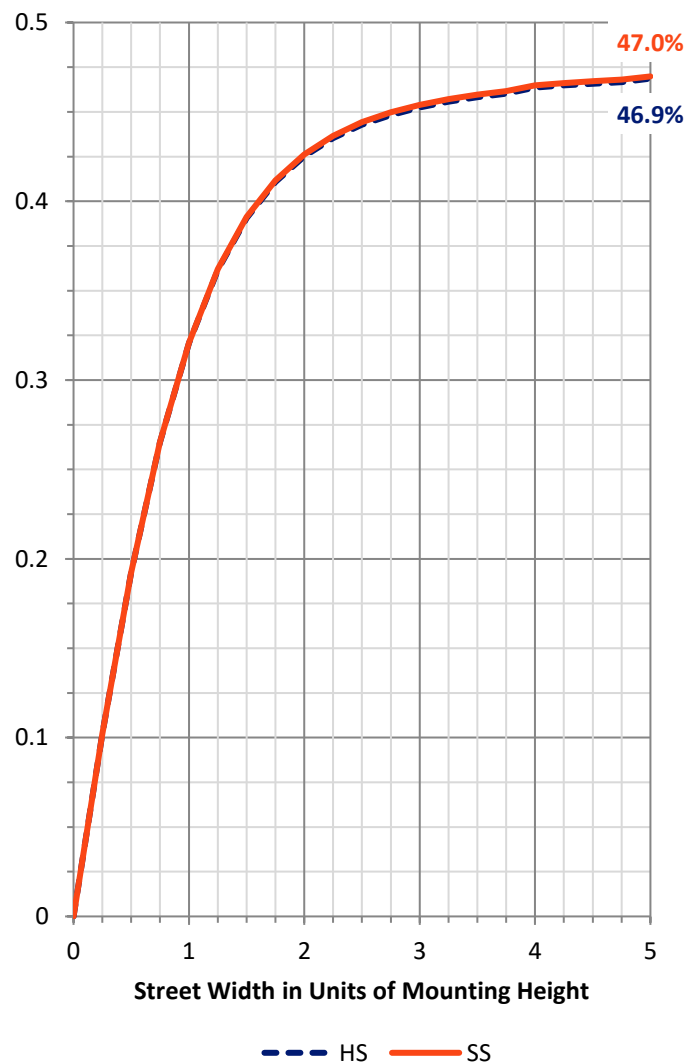
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2658.2	161.7	2820.0
	% Fixture	47.1	2.9	50.0
<b>Street Side</b>	Lumens	2658.2	161.7	2820.0
	% Fixture	47.1	2.9	50.0
<b>Total</b>	Lumens	5316.5	323.4	5639.9
	% Fixture	94.3	5.7	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.7	2.2
10°-20°	368.0	6.5
20°-30°	592.6	10.5
30°-40°	797.1	14.1
40°-50°	983.4	17.4
50°-60°	1055.1	18.7
60°-70°	855.6	15.2
70°-80°	453.5	8.0
80°-90°	84.3	1.5
90°-100°	7.2	0.1
100°-110°	73.4	1.3
110°-120°	107.3	1.9
120°-130°	62.3	1.1
130°-140°	33.0	0.6
140°-150°	19.6	0.3
150°-160°	12.1	0.2
160°-170°	6.6	0.1
170°-180°	2.1	0.0
0°-90°	5316.5	94.3
0°-180°	5639.9	100.0

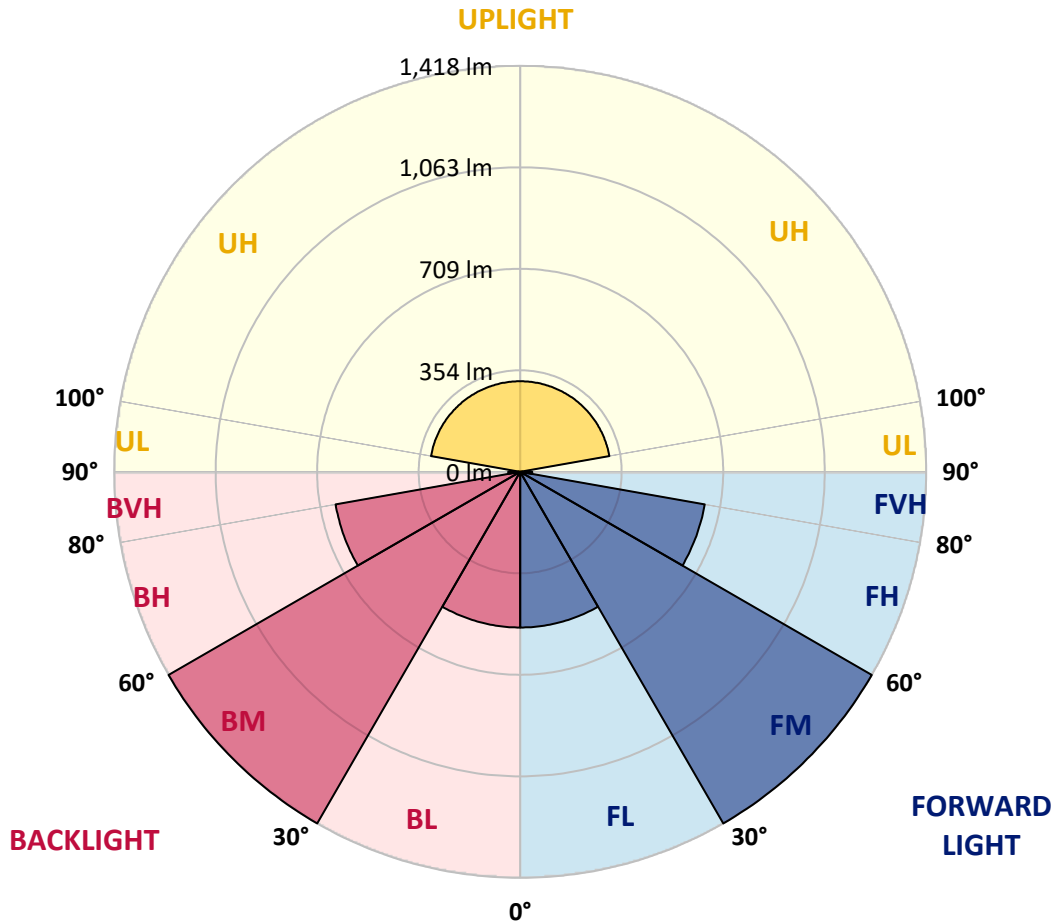


REPORT NUMBER: P833581  
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	543.7	9.6			
FM (30°-60°)	1417.8	25.1			
FH (60°-80°)	654.6	11.6			G0/660
FVH (80°-90°)	42.2	0.7			G1/100
BL (0°-30°)	543.7	9.6	B2/1000		
BM (30°-60°)	1417.8	25.1	B2/2500		
BH (60°-80°)	654.6	11.6	B2/1000		G0/660
BVH (80°-90°)	42.2	0.7			G1/100
UL (90°-100°)	7.2	0.1		U1/10	
UH (100°-180°)	316.2	5.6		U3/500	

**BUG Rating: B2-U3-G1**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2	1344.2
2.5°	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5	1339.9
5°	1335.5	1335.5	1335.5	1335.5	1331.2	1335.5	1335.5	1335.5	1335.5	1335.5	1335.5
7.5°	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8	1326.8
10°	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8	1313.8
12.5°	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1	1305.1
15°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1296.4	1296.4
17.5°	1292.0	1292.0	1292.0	1292.0	1296.4	1296.4	1296.4	1292.0	1292.0	1292.0	1292.0
20°	1283.3	1283.3	1283.3	1287.7	1287.7	1287.7	1287.7	1287.7	1283.3	1283.3	1283.3
22.5°	1279.0	1279.0	1279.0	1279.0	1283.3	1283.3	1283.3	1283.3	1279.0	1279.0	1279.0
25°	1274.6	1274.6	1279.0	1279.0	1283.3	1283.3	1283.3	1279.0	1279.0	1274.6	1274.6
27.5°	1274.6	1274.6	1279.0	1279.0	1283.3	1283.3	1283.3	1283.3	1279.0	1274.6	1274.6
30°	1270.3	1274.6	1274.6	1279.0	1283.3	1283.3	1283.3	1279.0	1274.6	1270.3	1270.3
32.5°	1265.9	1265.9	1270.3	1274.6	1279.0	1279.0	1279.0	1274.6	1270.3	1265.9	1261.6
35°	1261.6	1261.6	1261.6	1270.3	1274.6	1274.6	1274.6	1270.3	1261.6	1257.2	1257.2
37.5°	1252.9	1252.9	1261.6	1265.9	1274.6	1274.6	1274.6	1265.9	1257.2	1252.9	1248.5
40°	1252.9	1252.9	1261.6	1265.9	1279.0	1279.0	1274.6	1265.9	1257.2	1248.5	1244.2
42.5°	1248.5	1252.9	1261.6	1274.6	1287.7	1287.7	1283.3	1270.3	1257.2	1248.5	1244.2
45°	1248.5	1248.5	1261.6	1279.0	1296.4	1300.7	1292.0	1279.0	1261.6	1244.2	1244.2
47.5°	1239.8	1239.8	1257.2	1279.0	1300.7	1305.1	1300.7	1279.0	1257.2	1244.2	1239.8
50°	1218.1	1218.1	1239.8	1265.9	1292.0	1300.7	1292.0	1274.6	1244.2	1226.8	1222.4
52.5°	1183.3	1183.3	1205.0	1239.8	1265.9	1279.0	1270.3	1248.5	1218.1	1192.0	1187.6
55°	1131.1	1135.4	1157.2	1196.3	1226.8	1239.8	1231.1	1205.0	1170.2	1144.1	1135.4
57.5°	1070.2	1070.2	1100.6	1139.8	1170.2	1183.3	1174.6	1148.5	1109.3	1083.2	1074.5
60°	987.5	991.9	1018.0	1070.2	1100.6	1113.7	1105.0	1074.5	1031.0	1000.6	991.9
62.5°	904.9	909.2	935.3	978.8	1013.6	1022.3	1013.6	983.2	944.0	913.6	904.9
65°	809.1	813.5	843.9	883.1	909.2	922.3	909.2	883.1	848.3	817.8	813.5
67.5°	709.1	713.4	743.9	778.7	804.8	813.5	800.4	778.7	743.9	717.8	709.1
70°	604.7	609.0	635.1	665.6	687.3	696.0	687.3	661.2	635.1	609.0	604.7
72.5°	495.9	500.3	526.4	552.5	569.9	578.6	565.5	548.1	522.0	500.3	495.9
75°	391.5	391.5	413.3	435.0	452.4	456.8	448.1	435.0	413.3	395.9	387.2
77.5°	291.5	291.5	313.2	326.3	335.0	343.7	335.0	321.9	308.9	291.5	291.5
80°	195.8	195.8	213.2	221.9	230.6	234.9	230.6	221.9	213.2	200.1	195.8
82.5°	117.5	117.5	126.2	134.9	134.9	139.2	139.2	134.9	126.2	117.5	117.5
85°	52.2	47.9	56.6	60.9	60.9	65.3	65.3	60.9	56.6	52.2	52.2
87.5°	4.4	8.7	8.7	13.1	13.1	13.1	13.1	13.1	8.7	8.7	8.7
90°	2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8
92.5°	2.8	2.8	2.8	3.9	4.4	3.9	4.4	3.3	3.3	2.8	2.8
95°	3.3	3.3	3.9	5.0	6.1	6.6	6.6	3.9	3.9	3.3	3.3
97.5°	4.4	5.0	5.0	6.1	10.0	18.3	11.1	5.5	5.5	5.0	4.4
100°	7.2	7.7	7.7	13.8	29.3	39.3	28.2	14.4	10.5	7.7	7.7
102.5°	23.2	24.3	29.9	44.8	66.4	60.3	50.9	48.1	33.2	26.6	25.5
105°	59.2	58.7	63.1	74.7	93.0	91.3	84.1	76.4	65.8	60.9	60.9
107.5°	78.0	78.0	81.9	91.9	105.7	123.4	125.1	99.0	86.9	81.3	80.8
110°	88.0	88.0	91.3	99.6	117.9	142.8	141.6	122.3	107.3	100.2	99.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	90.2	90.7	95.2	107.9	127.8	138.9	133.9	126.2	119.5	114.0	112.9
115°	93.5	93.5	98.5	110.7	121.7	126.2	120.6	114.5	110.1	107.9	109.0
117.5°	92.4	94.1	95.2	101.8	109.0	112.3	109.6	101.3	97.9	96.8	95.2
120°	85.8	85.8	86.9	90.2	94.1	95.7	94.6	89.1	86.3	85.8	84.7
122.5°	76.4	76.9	76.4	78.0	80.8	82.4	81.3	76.9	75.8	75.8	74.7
125°	67.0	67.0	66.4	67.5	69.2	68.6	69.2	67.0	66.4	66.4	65.8
127.5°	60.3	59.8	58.7	59.2	59.8	59.8	60.3	58.1	58.7	59.2	58.7
130°	53.7	53.7	52.6	52.6	52.6	51.5	52.6	51.5	52.0	52.6	53.1
132.5°	47.6	47.6	45.9	45.4	45.4	45.4	45.9	45.4	46.5	47.6	47.6
135°	42.6	42.6	40.9	41.5	41.5	40.9	41.5	40.9	42.1	42.6	42.6
137.5°	38.7	38.7	37.6	37.6	37.6	37.1	37.6	37.6	38.2	39.3	39.8
140°	35.4	35.4	34.9	34.9	34.3	34.9	34.9	34.9	35.4	36.0	36.0
142.5°	33.8	33.2	32.6	32.1	32.6	32.6	32.6	32.1	32.6	33.8	33.8
145°	31.0	31.0	30.4	30.4	30.4	31.0	30.4	30.4	31.0	31.0	31.5
147.5°	29.3	29.3	28.8	29.3	29.3	29.3	29.3	28.8	29.3	29.3	29.9
150°	28.8	28.2	27.7	28.2	28.2	27.7	27.7	27.7	27.7	28.2	28.2
152.5°	27.1	27.1	26.6	27.1	26.6	26.6	26.6	26.6	26.6	27.1	27.7
155°	26.0	26.0	25.5	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0
157.5°	24.9	25.5	24.9	24.9	24.9	24.9	24.9	24.9	24.9	25.5	25.5
160°	24.3	24.3	24.3	24.3	23.8	23.8	23.8	24.3	24.3	24.3	24.9
162.5°	23.8	23.8	23.8	23.8	23.2	23.2	23.2	23.2	23.8	23.8	24.3
165°	23.8	23.2	23.2	23.2	22.7	22.7	22.7	22.7	23.2	23.8	23.2
167.5°	22.7	22.7	22.7	22.7	22.7	22.1	22.1	22.7	22.7	22.7	23.2
170°	22.7	22.7	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.7
172.5°	22.7	22.7	22.7	22.7	22.1	22.1	22.1	22.1	22.1	22.7	22.7
175°	22.7	22.7	22.7	22.7	22.1	22.1	22.1	22.7	22.7	22.7	22.1
177.5°	22.7	22.7	22.7	22.7	22.1	22.7	22.7	22.7	22.7	22.7	22.7
180°	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7



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

REPORT NUMBER: SP1-2411-284-3

CIE 1931 Chromaticity Diagram



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



CCT = 4876K  
 CIE x = 0.3502  
 CIE y = 0.3680  
 Duv = 0.0061

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2411-284-3

**Photopic Flux vs. Wavelength**

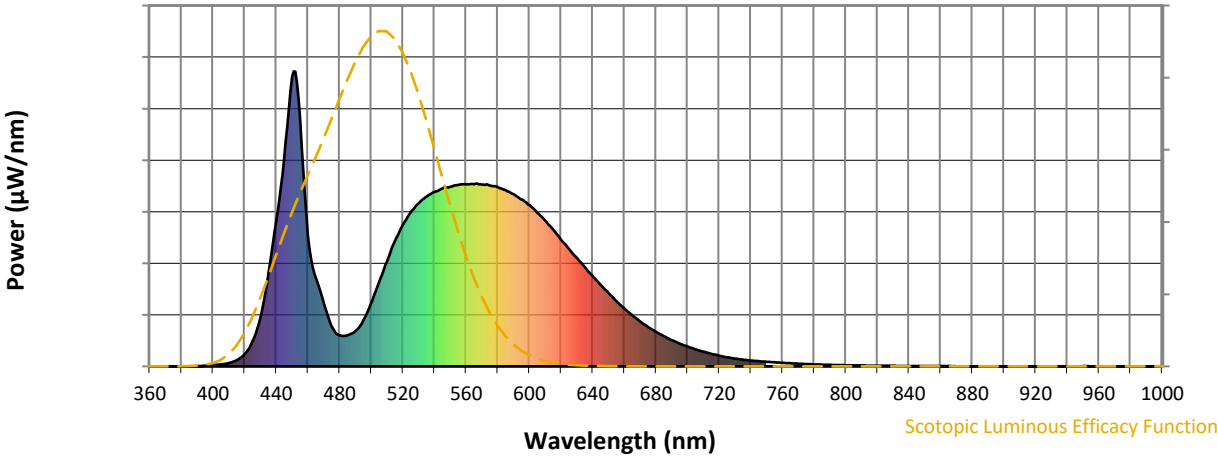


**Photopic Lumens: NR**

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			

REPORT NUMBER: SP1-2411-284-3

**Scotopic Flux vs. Wavelength**

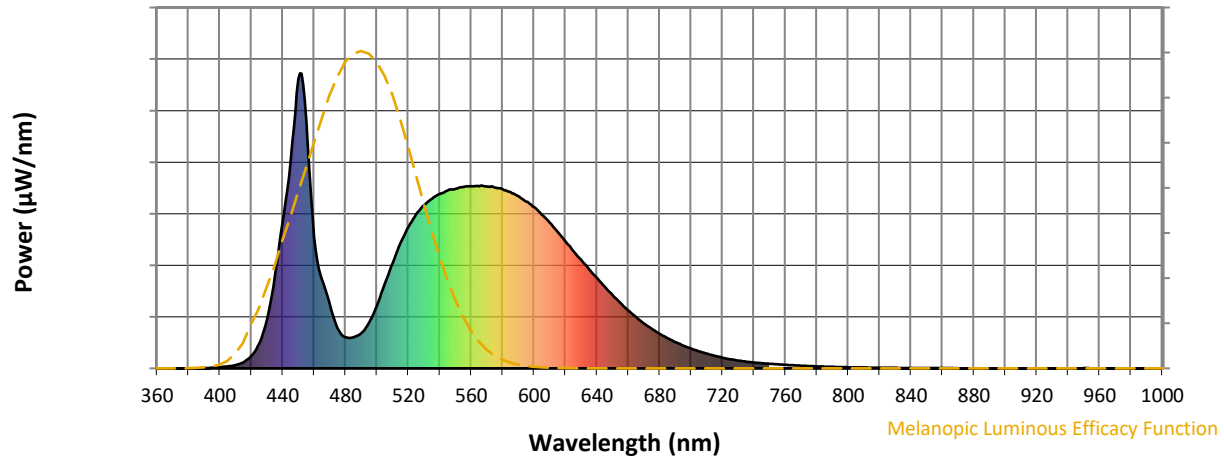


**Scotopic Lumens: NR S/P: 1.74**

$\lambda$ (nm)	Power $W/\text{nm}$	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens ( $\phi/\text{nm}$ )
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

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 3.51**

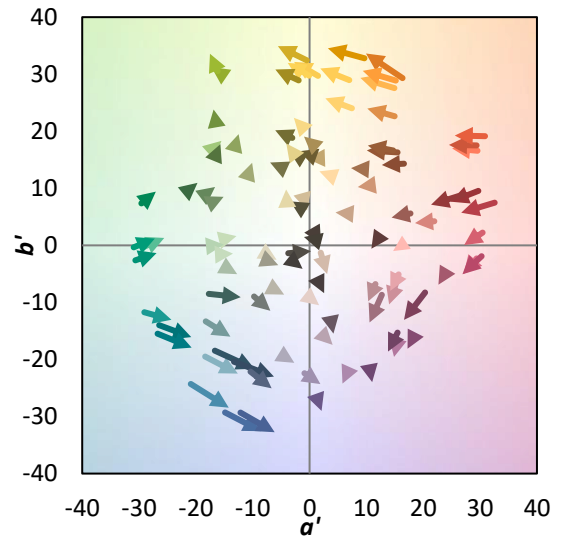
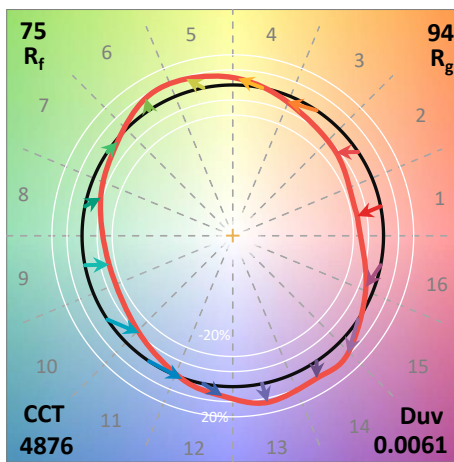
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	119	NR	620	430	NR	750	16	NR	880	0	NR
365	0	NR	495	156	NR	625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

$R_f = 74.6$   
 $R_g = 94.4$   
 $CIE R_a = 72.6$   
 $R_9 = -24.6$



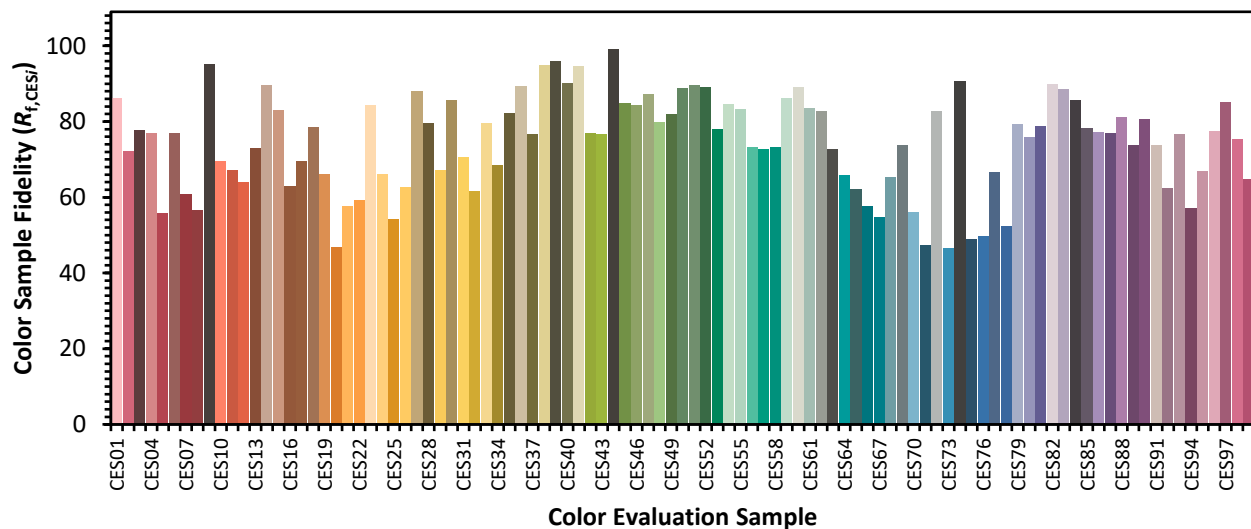
**Color Vector Graphics**



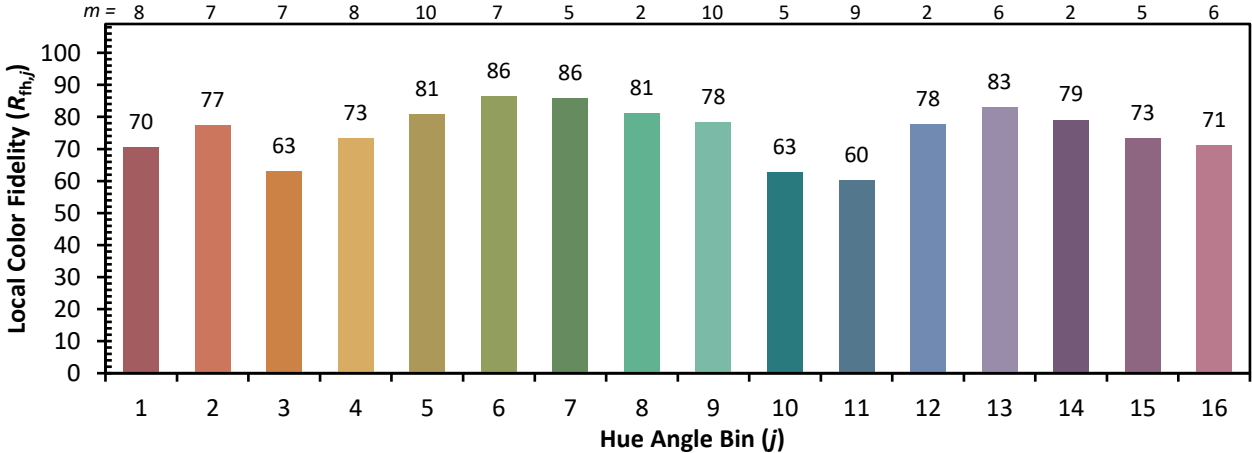


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)