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: P387223

Luminaire Tested: **TT-D5-830-U-MQ**

Issue Date: 2/18/2020

Report Generated By E9970913

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P387223
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1908-473-16)
Test Lab:	INNOVATIONS CENTER
Issue Date:	2/18/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TT-D5-830-U-MQ
Description:	TOPTIER LED PARKING GARAGE LUMINAIRE
	3000K, 80 CRI LEDS AND MEDIUM DISTRIBUTION
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	8968 lumens
Efficiency:	N/A
Efficacy:	120.1 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short - Semi-Cutoff
BUG Rating:	B3 - U0 - G2

Input Watts (W):	74.7
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:	25 FT

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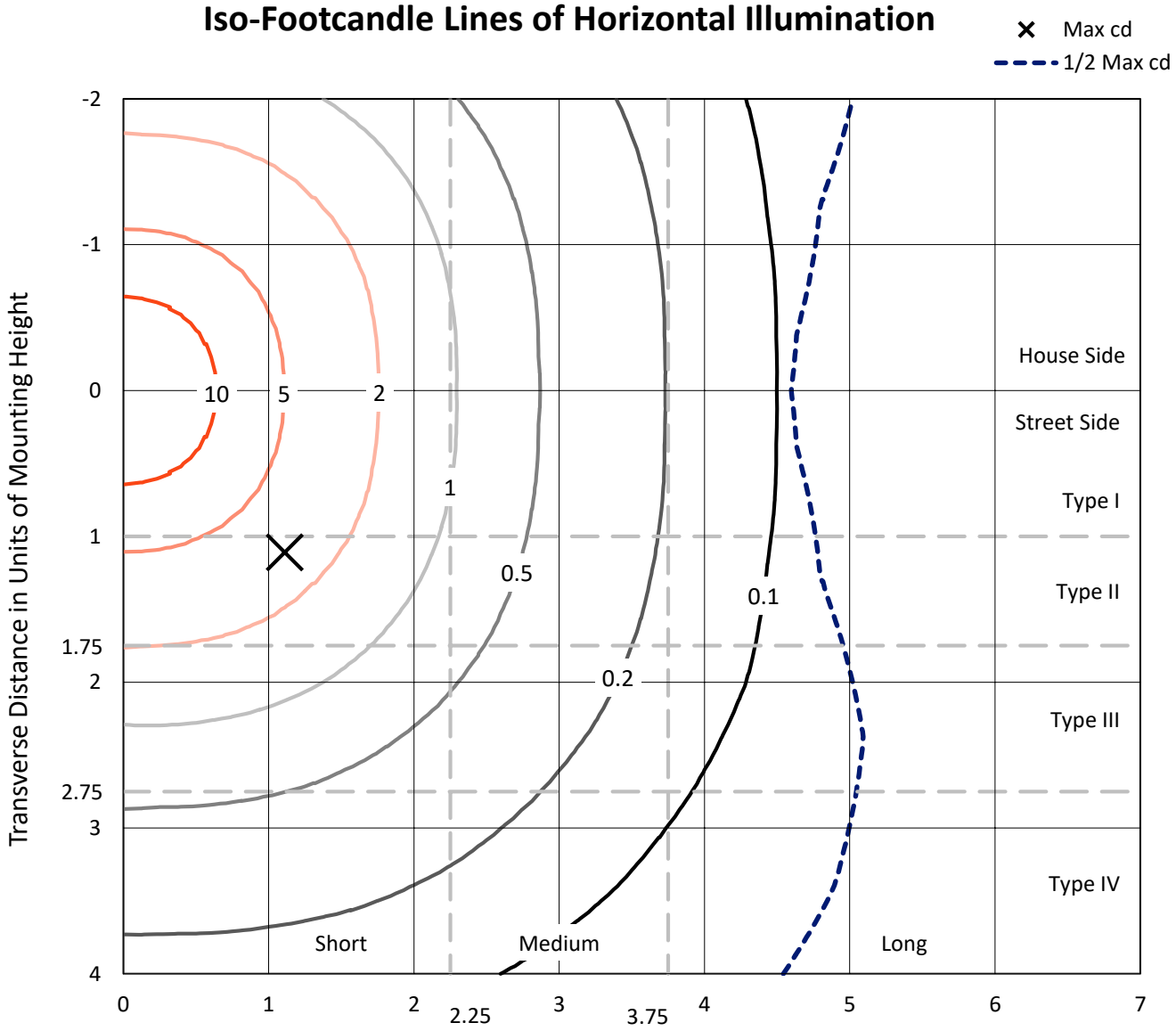
Scaled Data Report

REPORT NUMBER: P387223
CATALOG NUMBER: TT-D5-830-U-MQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 10 foot mounting height. Maximum calculated value = 17.9 fc
Type V - Short - Semi-Cutoff

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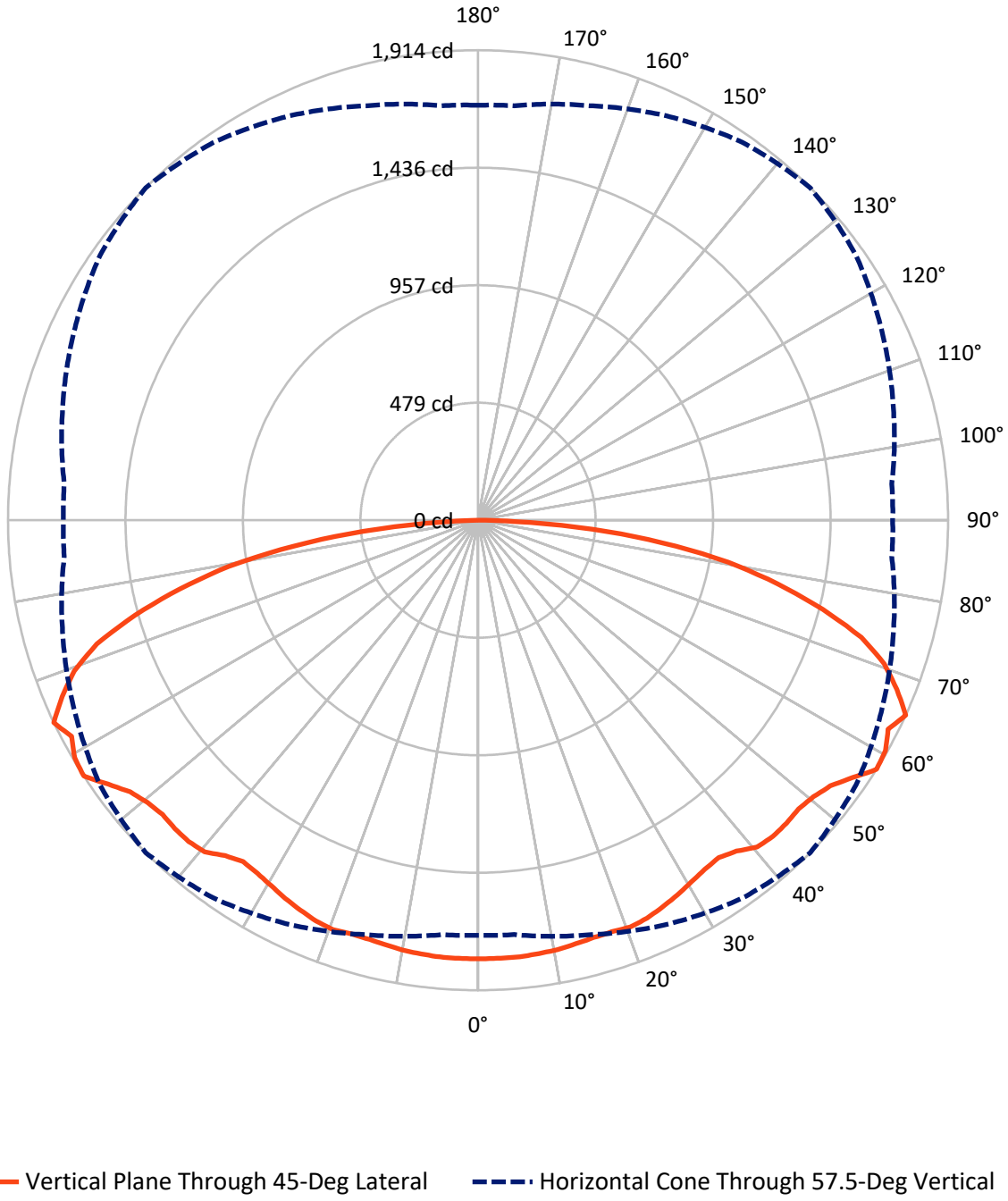
Luminous Intensity Polar Plot



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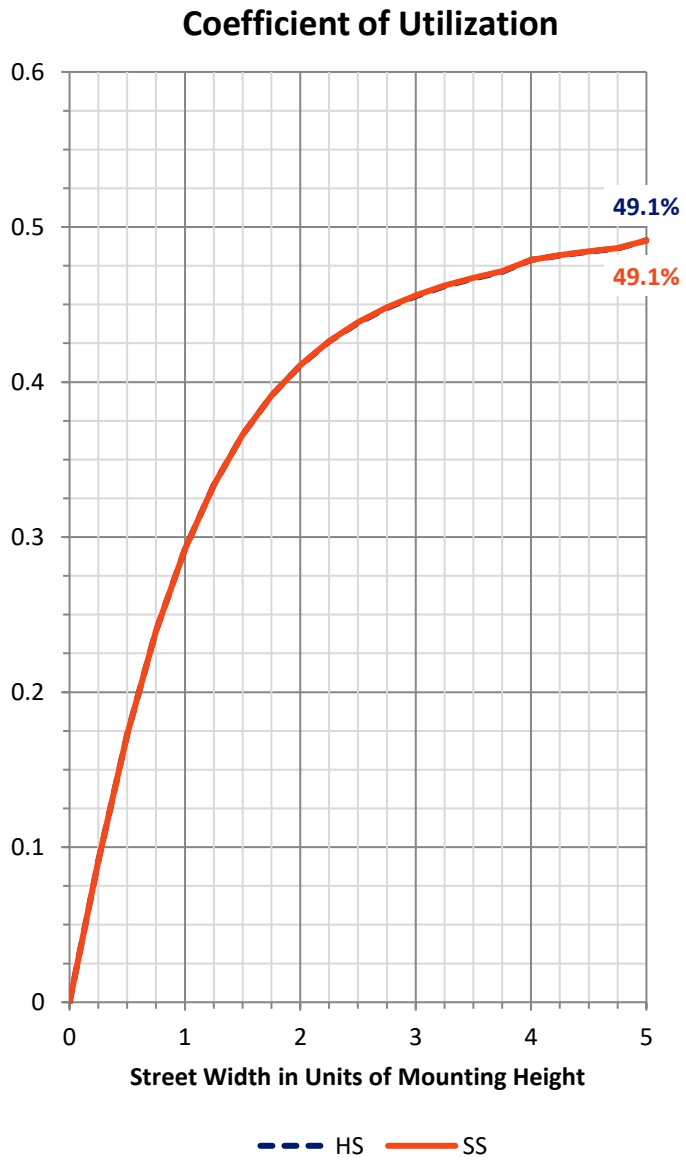
CATALOG NUMBER: TT-D5-830-U-MQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4484.0	0.0	4484.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4484.0	0.0	4484.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	8968.0	0.0	8968.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.2	1.9
10°-20°	500.6	5.6
20°-30°	804.4	9.0
30°-40°	1062.0	11.8
40°-50°	1328.7	14.8
50°-60°	1580.3	17.6
60°-70°	1714.0	19.1
70°-80°	1364.3	15.2
80°-90°	443.5	4.9
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°	8968.0	100.0
0°-180°	8968.0	100.0



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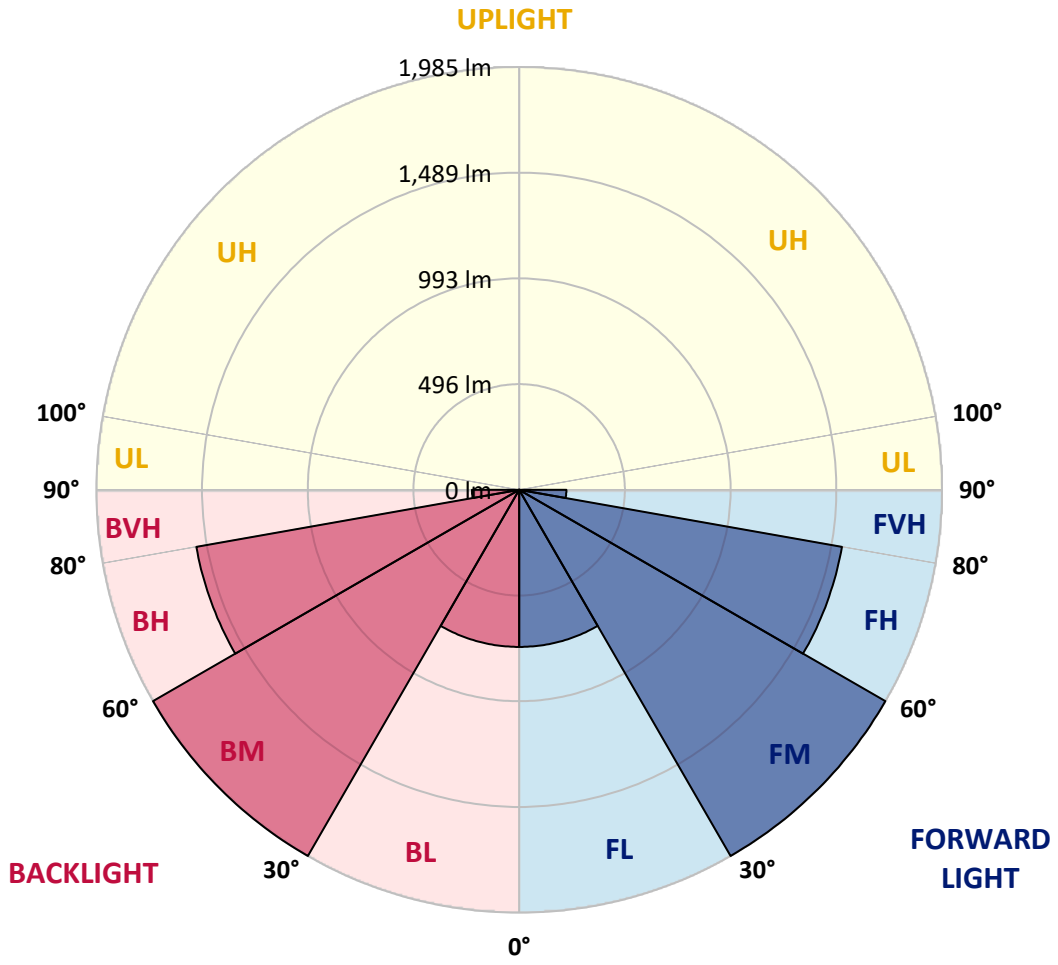
CATALOG NUMBER: TT-D5-830-U-MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	737.6	8.2			
FM	(30°-60°)	1985.5	22.1			
FH	(60°-80°)	1539.2	17.2			G1/1800
FVH	(80°-90°)	221.7	2.5			G2/225
BL	(0°-30°)	737.6	8.2	B2/1000		
BM	(30°-60°)	1985.5	22.1	B2/2500		
BH	(60°-80°)	1539.2	17.2	B3/2500		G1/1800
BVH	(80°-90°)	221.7	2.5			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2
Type V Short



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REPORT NUMBER: P387223
CATALOG NUMBER: TT-D5-830-U-MQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1786.1	1786.1	1786.1	1786.1	1786.1	*1786.1*	1786.1	1786.1	1786.1	1786.1	1786.1
2.5°	1788.8	1787.5	1788.8	1787.5	1787.5	*1786.1*	1787.5	1787.5	1787.5	1787.5	1787.5
5°	1787.5	1786.1	1786.1	1787.5	1786.1	*1786.1*	1786.1	1786.1	1786.1	1786.1	1786.1
7.5°	1782.1	1782.1	1783.5	1782.1	1782.1	*1782.1*	1782.1	1782.1	1782.1	1783.5	1783.5
10°	1778.1	1776.8	1778.1	1778.1	1776.8	*1778.1*	1776.8	1778.1	1778.1	1778.1	1778.1
12.5°	1772.8	1771.5	1772.8	1772.8	1771.5	*1770.1*	1771.5	1771.5	1772.8	1772.8	1772.8
15°	1763.5	1763.5	1766.1	1764.8	1764.8	*1763.5*	1766.1	1764.8	1763.5	1764.8	1764.8
17.5°	1756.8	1756.8	1759.5	1762.1	1762.1	*1762.1*	1762.1	1760.8	1758.1	1759.5	1756.8
20°	1758.1	1759.5	1760.8	1764.8	1767.5	*1768.8*	1768.8	1764.8	1760.8	1762.1	1760.8
22.5°	1754.1	1752.8	1754.1	1756.8	1760.8	*1760.8*	1760.8	1755.5	1754.1	1752.8	1752.8
25°	1738.1	1738.1	1740.8	1743.5	1746.1	*1744.8*	1746.1	1743.5	1740.8	1738.1	1738.1
27.5°	1719.5	1719.5	1723.5	1726.1	1728.8	*1728.8*	1727.5	1724.8	1723.5	1720.8	1719.5
30°	1700.8	1700.8	1704.8	1707.4	1711.4	*1710.1*	1710.1	1706.1	1702.1	1699.4	1699.4
32.5°	1680.8	1679.4	1683.4	1690.1	1695.4	*1695.4*	1695.4	1687.4	1682.1	1679.4	1678.1
35°	1663.4	1663.4	1668.8	1680.8	1687.4	*1687.4*	1684.8	1679.4	1667.4	1663.4	1663.4
37.5°	1658.1	1662.1	1676.8	1694.1	1707.4	*1710.1*	1706.1	1691.4	1675.4	1663.4	1659.4
40°	1675.4	1679.4	1698.1	1726.1	1746.1	*1750.1*	1746.1	1724.8	1696.8	1678.1	1676.8
42.5°	1678.1	1680.8	1703.4	1735.5	1754.1	*1760.8*	1754.1	1732.8	1702.1	1679.4	1678.1
45°	1668.8	1670.1	1696.8	1730.1	1752.8	*1760.8*	1752.8	1727.5	1695.4	1670.1	1668.8
47.5°	1656.8	1659.4	1688.8	1723.5	1751.5	*1756.8*	1750.1	1722.1	1686.1	1660.8	1656.8
50°	1647.4	1655.4	1682.1	1720.8	1754.1	*1770.1*	1754.1	1716.8	1680.8	1652.8	1647.4
52.5°	1652.8	1655.4	1690.1	1744.8	1790.2	*1796.8*	1788.8	1744.8	1687.4	1655.4	1651.4
55°	1668.8	1680.8	1718.1	1796.8	1838.2	*1850.2*	1832.8	1794.2	1719.5	1680.8	1668.8
57.5°	*1690.1*	*1694.1*	*1747.5*	*1816.8*	*1878.2*	*1914.2*	*1879.5*	*1815.5*	*1751.5*	*1691.4*	*1688.8*
60°	1672.8	1660.8	1727.5	1808.8	1891.5	*1906.2*	1886.2	1810.2	1724.8	1659.4	1671.4
62.5°	1626.1	1634.1	1688.8	1800.8	1858.2	*1874.2*	1852.8	1800.8	1686.1	1640.7	1622.1
65°	1588.7	1636.7	1696.8	1776.8	1868.9	*1914.2*	1870.2	1774.1	1699.4	1628.7	1584.7
67.5°	1536.7	1546.0	1635.4	1734.1	1816.8	*1839.5*	1815.5	1735.5	1627.4	1539.4	1546.0
70°	1448.7	1435.3	1526.0	1640.7	1719.5	*1755.5*	1722.1	1635.4	1522.0	1432.7	1444.7
72.5°	1303.3	1311.3	1395.3	1516.7	1598.1	*1632.7*	1599.4	1507.4	1392.6	1319.3	1311.3
75°	1151.2	1160.5	1241.9	1352.6	1435.3	*1450.0*	1440.7	1345.9	1244.6	1159.2	1151.2
77.5°	977.8	987.1	1053.8	1175.2	1224.6	*1247.2*	1227.2	1181.9	1051.1	985.8	975.1
80°	785.7	783.0	841.7	945.8	1007.1	*1032.5*	1007.1	948.4	839.0	788.4	771.0
82.5°	561.6	564.3	618.9	691.0	749.7	*757.7*	745.7	697.7	613.6	570.9	546.9
85°	312.1	324.1	364.2	417.5	456.2	*469.5*	449.5	404.2	362.8	329.5	318.8
87.5°	74.7	81.4	94.7	120.1	134.7	*148.1*	134.7	125.4	89.4	81.4	74.7
90°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0	0.0

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LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

McGRAW-EDISON

Report Number: SP1-2006-844-5

Luminaire Tested: TT-D5-830-U-MQ

Test Date: 09/30/2020

Data applicable to product families TT-x-830 and TTN-x-830

Report Generated By controller / USPTCWHP6086842

Test Information

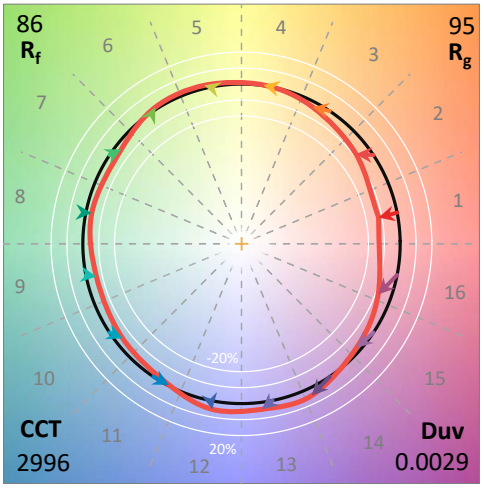
Test Method:	LM-79-08
Report Number:	SP1-2006-844-5
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1
Measurement Geometry:	4π
Issue Date:	09/30/2020
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	**TT-D5-830-U-MQ**
Description:	MCGRAW EDISON

DISTRIBUTION

Spectral Parameters

CCT (K):	2996	CRI (Ra):	81.6		
CIE u':	0.2496	R1:	79.1	R9:	-0.6
CIE v':	0.5255	R2:	89.7	R10:	77.8
Duv:	0.0029	R3:	96.7	R11:	80.1
CIE x:	0.4414	R4:	80.2	R12:	72.7
CIE y:	0.4130	R5:	79.8	R13:	81.5
CIE z:	0.1455	R6:	88.4	R14:	98.5
Peak Wavelength (nm):	601	R7:	82.6		
Dominant Wavelength (nm):	581	R8:	56.3		
Purity:	56.8				

Rf:	85.7
Rg:	94.5



Test Conditions

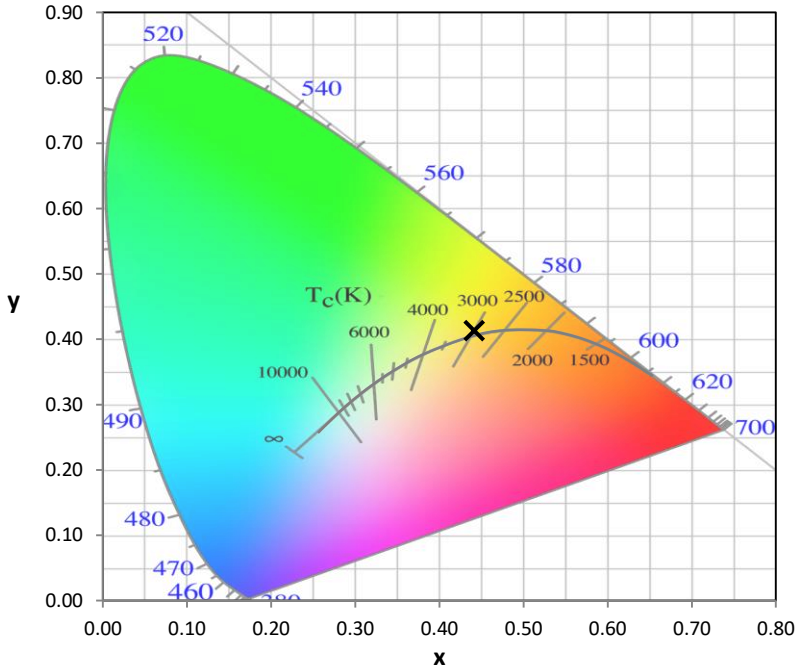
Stabilization Time:	55M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.5/43%
Sphere Temperature (°C):	25.9

REPORT NUMBER: SP1-2006-844-5

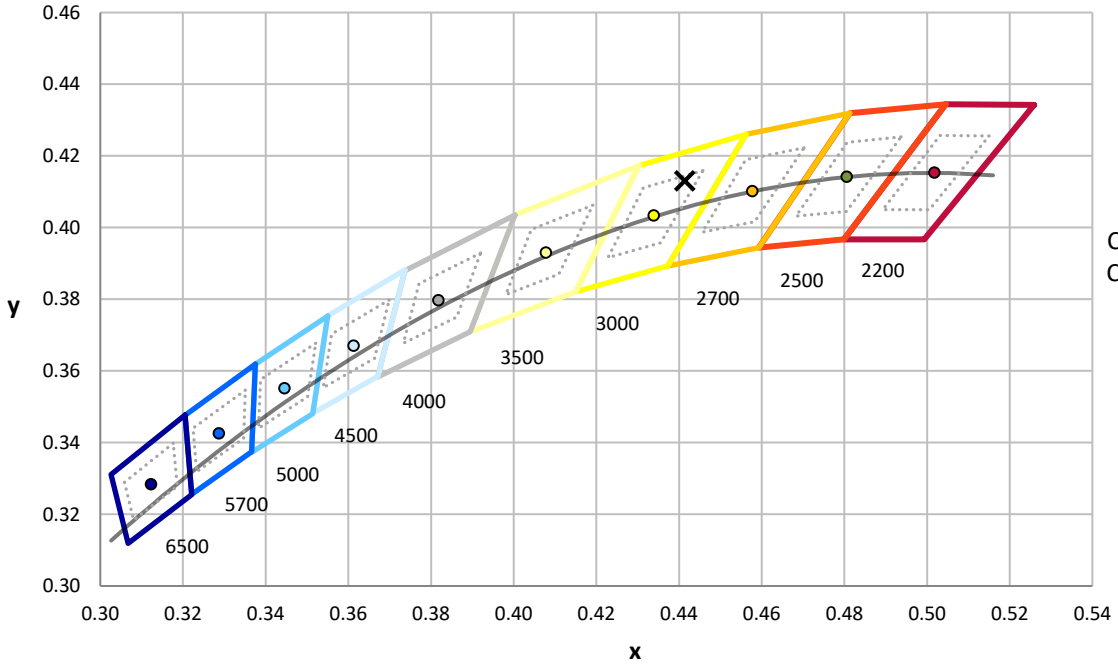
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	7/29/2020	1/29/2021
Power Meter	IN0071	12/3/2019	12/3/2020
AC Power Source	IN0063	12/3/2019	12/3/2020
DC Power Source	IN0208	12/3/2019	12/3/2020
Sphere Thermometer	IN0085	12/3/2019	12/3/2020
Room Thermometer	IN0046	12/3/2019	12/3/2020

REPORT NUMBER: SP1-2006-844-5

CIE 1931 Chromaticity Diagram



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

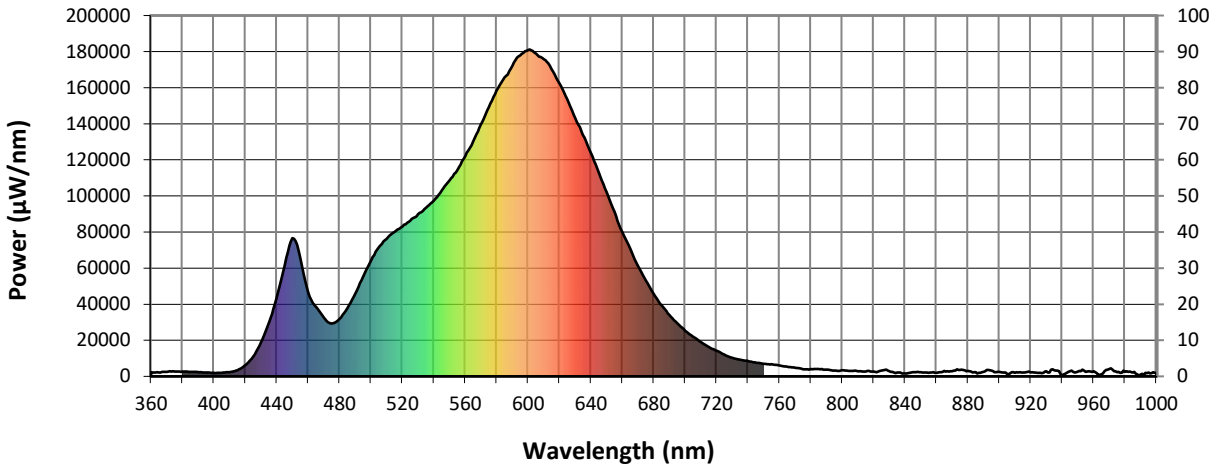


CCT = 2996K
CIE x = 0.4414
CIE y = 0.4130
Duv = 0.0029

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2006-844-5

Photopic Flux vs. Wavelength



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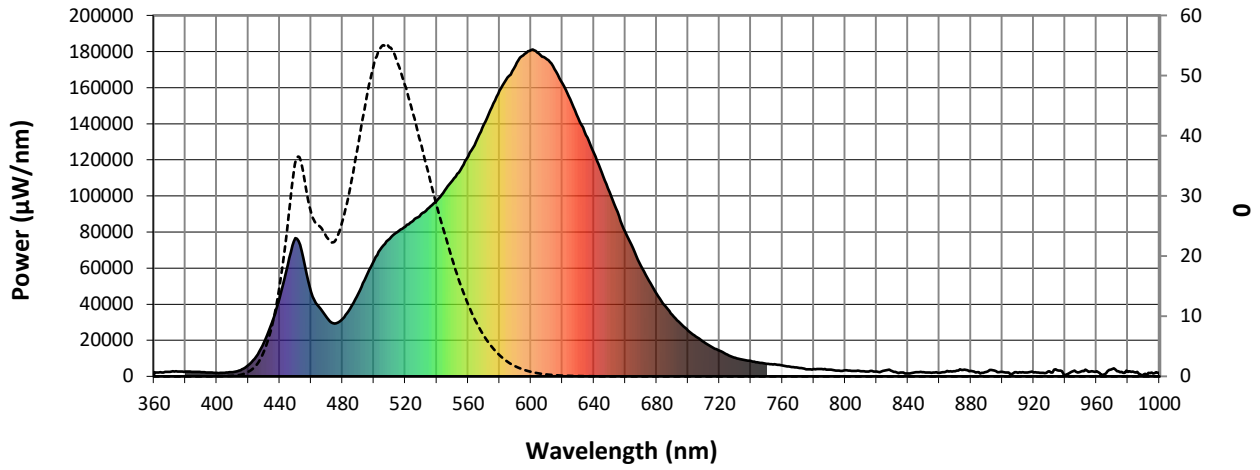
λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	2265	0.0	490	45874	6.5	620	162337	42.2	750	6976	0.0	880	2976	0.0
365	2167	0.0	495	55189	10.0	625	153641	33.9	755	6666	0.0	885	2283	0.0
370	2505	0.0	500	64204	14.2	630	143151	25.9	760	5969	0.0	890	2506	0.0
375	2720	0.0	505	71441	20.0	635	133763	20.1	765	5281	0.0	895	3132	0.0
380	2601	0.0	510	76219	26.2	640	123759	14.8	770	4732	0.0	900	2539	0.0
385	2461	0.0	515	79949	33.1	645	112859	10.9	775	3998	0.0	905	1252	0.0
390	2308	0.0	520	83077	40.3	650	102080	7.5	780	4027	0.0	910	1938	0.0
395	2104	0.0	525	86267	46.3	655	91102	5.2	785	4088	0.0	915	2171	0.0
400	1900	0.0	530	89871	52.9	660	79928	3.3	790	3700	0.0	920	2123	0.0
405	1945	0.0	535	93544	58.0	665	70694	2.2	795	3213	0.0	925	1954	0.0
410	2378	0.0	540	97371	63.4	670	61201	1.3	800	3403	0.0	930	2800	0.0
415	3437	0.0	545	103011	68.6	675	53092	0.9	805	3079	0.0	935	3314	0.0
420	6173	0.0	550	108560	73.8	680	45718	0.5	810	2921	0.0	940	553	0.0
425	11052	0.1	555	114473	78.2	685	39372	0.3	815	2705	0.0	945	2793	0.0
430	18756	0.1	560	121896	82.8	690	34120	0.2	820	2685	0.0	950	2629	0.0
435	29750	0.4	565	130192	86.6	695	29427	0.1	825	3246	0.0	955	2418	0.0
440	43697	0.7	570	139595	90.8	700	25380	0.1	830	2813	0.0	960	2857	0.0
445	61462	1.3	575	149225	92.8	705	22079	0.0	835	2097	0.0	965	1052	0.0
450	76648	2.0	580	158344	94.1	710	18938	0.0	840	1606	0.0	970	4009	0.0
455	65529	2.2	585	165704	92.1	715	16322	0.0	845	2347	0.0	975	2341	0.0
460	46753	1.9	590	172269	89.1	720	14132	0.0	850	2273	0.0	980	2439	0.0
465	38422	2.0	595	177895	84.3	725	12072	0.0	855	1971	0.0	985	2098	0.0
470	32450	2.0	600	180887	78.0	730	10271	0.0	860	1962	0.0	990	1159	0.0
475	29284	2.3	605	178880	69.3	735	9202	0.0	865	2989	0.0	995	2146	0.0
480	31922	3.0	610	175843	60.4	740	8451	0.0	870	2921	0.0	1000	1904	0.0
485	37800	4.5	615	170321	51.4	745	7632	0.0	875	3581	0.0			

REPORT NUMBER: SP1-2006-844-5

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4357.3 **S/P: 0.5**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	2265	0.0	490	45874	70.6	620	162337	2.0	750	6976	0.0	880	2976	0.0
365	2167	0.0	495	55189	89.2	625	153641	1.3	755	6666	0.0	885	2283	0.0
370	2505	0.0	500	64204	107.4	630	143151	0.8	760	5969	0.0	890	2506	0.0
375	2720	0.0	505	71441	121.4	635	133763	0.5	765	5281	0.0	895	3132	0.0
380	2601	0.0	510	76219	129.2	640	123759	0.3	770	4732	0.0	900	2539	0.0
385	2461	0.0	515	79949	132.5	645	112859	0.2	775	3998	0.0	905	1252	0.0
390	2308	0.0	520	83077	132.1	650	102080	0.1	780	4027	0.0	910	1938	0.0
395	2104	0.0	525	86267	129.1	655	91102	0.1	785	4088	0.0	915	2171	0.0
400	1900	0.0	530	89871	123.9	660	79928	0.0	790	3700	0.0	920	2123	0.0
405	1945	0.1	535	93544	116.6	665	70694	0.0	795	3213	0.0	925	1954	0.0
410	2378	0.1	540	97371	107.6	670	61201	0.0	800	3403	0.0	930	2800	0.0
415	3437	0.4	545	103011	98.8	675	53092	0.0	805	3079	0.0	935	3314	0.0
420	6173	1.0	550	108560	88.8	680	45718	0.0	810	2921	0.0	940	553	0.0
425	11052	2.7	555	114473	78.2	685	39372	0.0	815	2705	0.0	945	2793	0.0
430	18756	6.4	560	121896	68.1	690	34120	0.0	820	2685	0.0	950	2629	0.0
435	29750	13.3	565	130192	58.4	695	29427	0.0	825	3246	0.0	955	2418	0.0
440	43697	24.4	570	139595	49.3	700	25380	0.0	830	2813	0.0	960	2857	0.0
445	61462	41.2	575	149225	40.6	705	22079	0.0	835	2097	0.0	965	1052	0.0
450	76648	59.4	580	158344	32.6	710	18938	0.0	840	1606	0.0	970	4009	0.0
455	65529	57.3	585	165704	25.3	715	16322	0.0	845	2347	0.0	975	2341	0.0
460	46753	45.2	590	172269	19.2	720	14132	0.0	850	2273	0.0	980	2439	0.0
465	38422	40.6	595	177895	14.2	725	12072	0.0	855	1971	0.0	985	2098	0.0
470	32450	37.4	600	180887	10.2	730	10271	0.0	860	1962	0.0	990	1159	0.0
475	29284	36.6	605	178880	7.0	735	9202	0.0	865	2989	0.0	995	2146	0.0
480	31922	43.1	610	175843	4.8	740	8451	0.0	870	2921	0.0	1000	1904	0.0
485	37800	54.8	615	170321	3.2	745	7632	0.0	875	3581	0.0			

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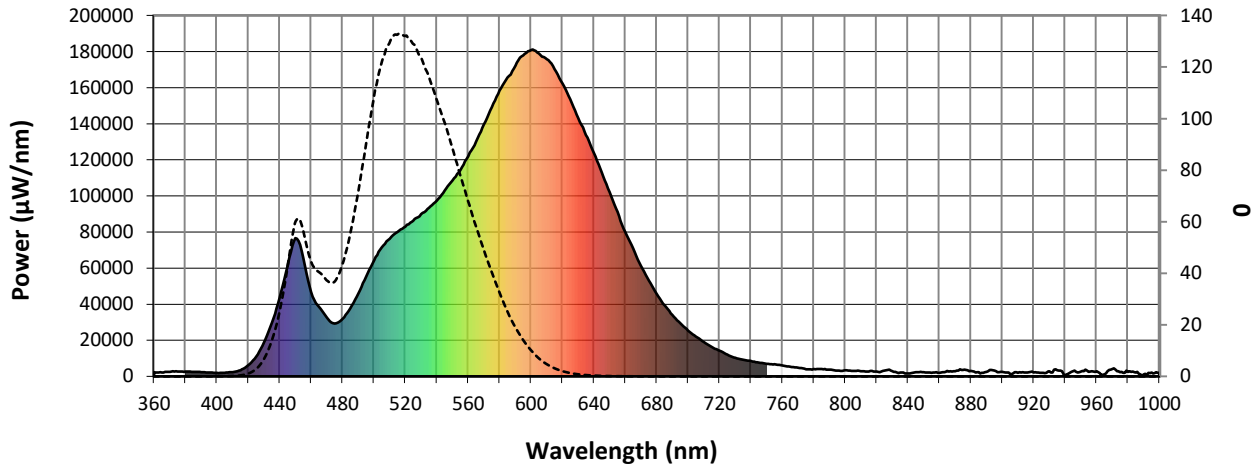
Melanopic Flux vs. Wavelength



Melanopic Lumens: 11640.4 S/P: 1.33

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	2265	0.0	490	45874	38.2	620	162337	0.1	750	6976	0.0	880	2976	0.0
365	2167	0.0	495	55189	45.6	625	153641	0.1	755	6666	0.0	885	2283	0.0
370	2505	0.0	500	64204	51.6	630	143151	0.0	760	5969	0.0	890	2506	0.0
375	2720	0.0	505	71441	54.8	635	133763	0.0	765	5281	0.0	895	3132	0.0
380	2601	0.0	510	76219	54.7	640	123759	0.0	770	4732	0.0	900	2539	0.0
385	2461	0.0	515	79949	52.2	645	112859	0.0	775	3998	0.0	905	1252	0.0
390	2308	0.0	520	83077	48.4	650	102080	0.0	780	4027	0.0	910	1938	0.0
395	2104	0.0	525	86267	43.7	655	91102	0.0	785	4088	0.0	915	2171	0.0
400	1900	0.0	530	89871	38.8	660	79928	0.0	790	3700	0.0	920	2123	0.0
405	1945	0.0	535	93544	33.7	665	70694	0.0	795	3213	0.0	925	1954	0.0
410	2378	0.1	540	97371	28.5	670	61201	0.0	800	3403	0.0	930	2800	0.0
415	3437	0.2	545	103011	23.9	675	53092	0.0	805	3079	0.0	935	3314	0.0
420	6173	0.7	550	108560	19.5	680	45718	0.0	810	2921	0.0	940	553	0.0
425	11052	1.7	555	114473	15.4	685	39372	0.0	815	2705	0.0	945	2793	0.0
430	18756	4.0	560	121896	12.0	690	34120	0.0	820	2685	0.0	950	2629	0.0
435	29750	7.9	565	130192	9.1	695	29427	0.0	825	3246	0.0	955	2418	0.0
440	43697	14.6	570	139595	6.8	700	25380	0.0	830	2813	0.0	960	2857	0.0
445	61462	24.2	575	149225	5.0	705	22079	0.0	835	2097	0.0	965	1052	0.0
450	76648	35.3	580	158344	3.5	710	18938	0.0	840	1606	0.0	970	4009	0.0
455	65529	34.3	585	165704	2.5	715	16322	0.0	845	2347	0.0	975	2341	0.0
460	46753	27.5	590	172269	1.7	720	14132	0.0	850	2273	0.0	980	2439	0.0
465	38422	25.1	595	177895	1.1	725	12072	0.0	855	1971	0.0	985	2098	0.0
470	32450	23.2	600	180887	0.8	730	10271	0.0	860	1962	0.0	990	1159	0.0
475	29284	22.4	605	178880	0.5	735	9202	0.0	865	2989	0.0	995	2146	0.0
480	31922	25.6	610	175843	0.3	740	8451	0.0	870	2921	0.0	1000	1904	0.0
485	37800	31.2	615	170321	0.2	745	7632	0.0	875	3581	0.0			

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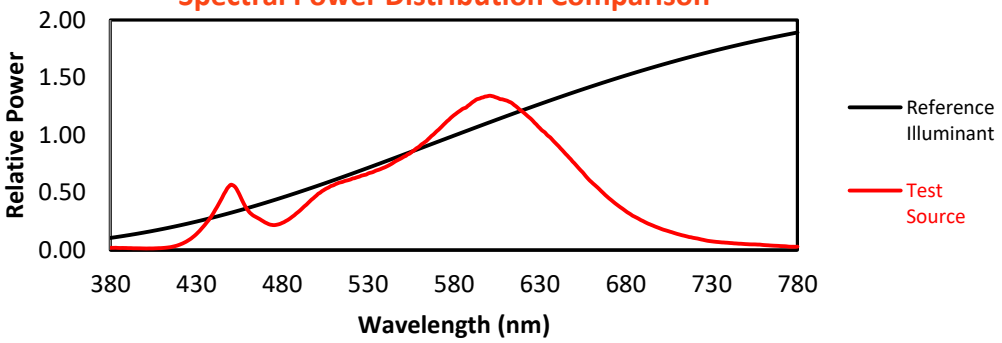
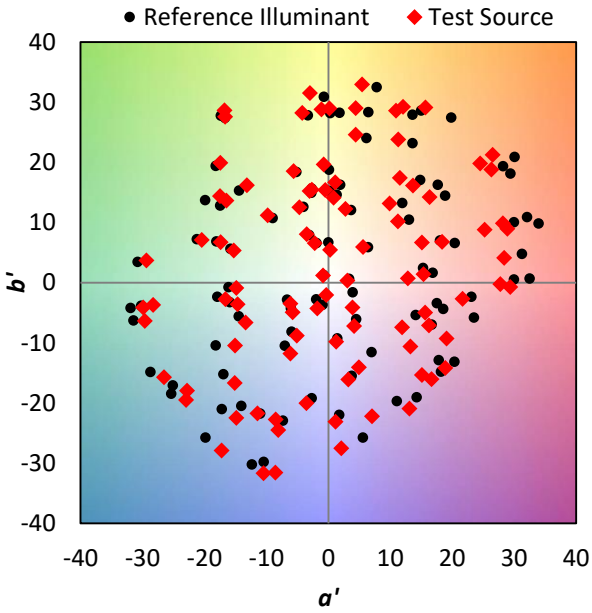
Summary

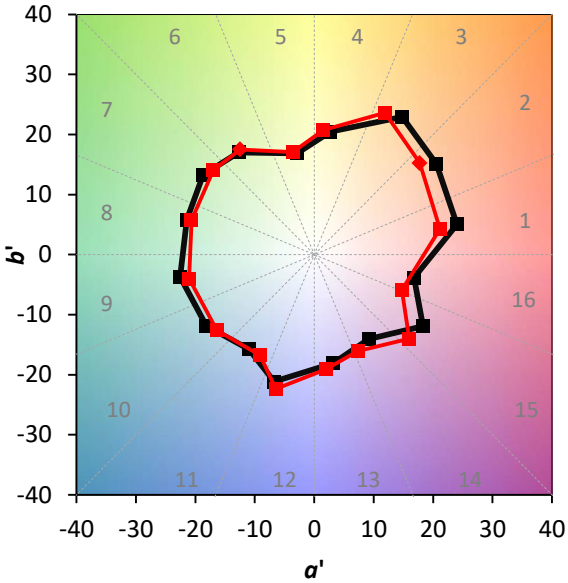
R_f = 85.7
R_g = 94.5
CIE R_a = 81.6
R_9 = -0.6

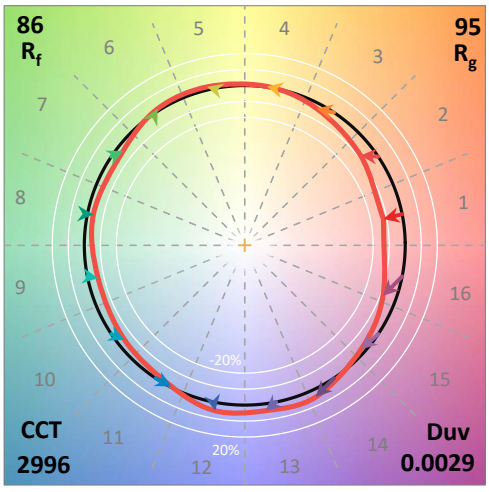
Spectral Power Distribution Comparison

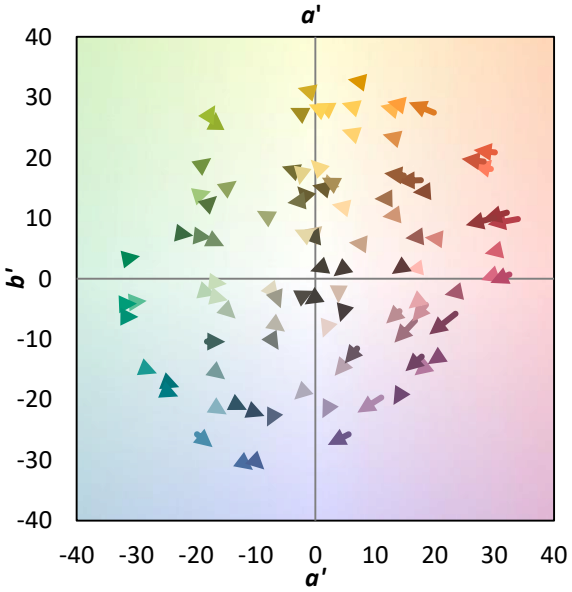


Color Vector Graphics









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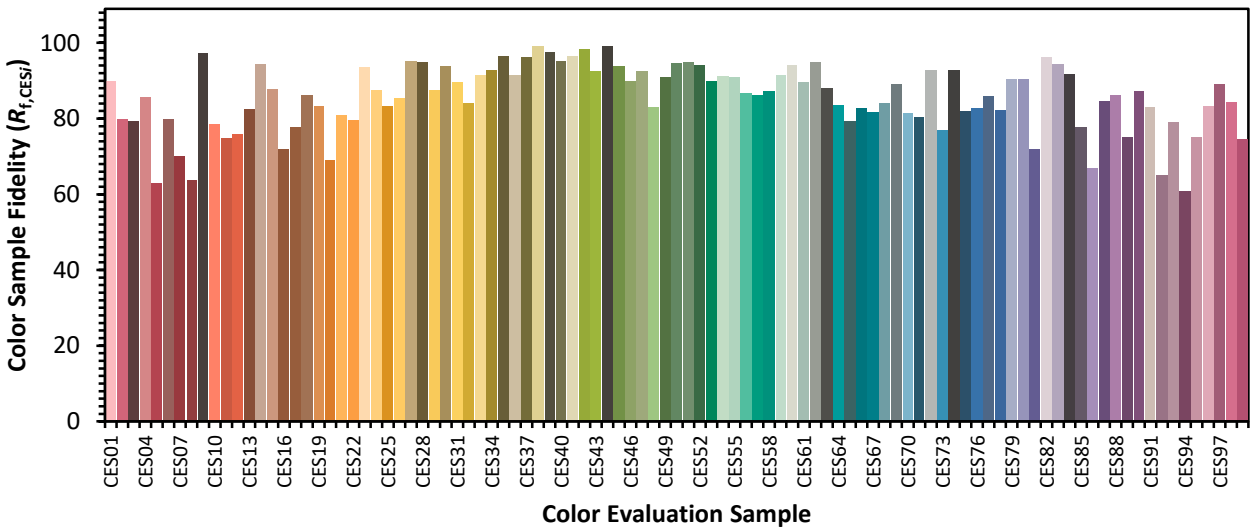
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 85	CES51 = 95	CES76 = 83
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 82
CES04 = 70	CES29 = 88	CES54 = 91	CES79 = 91
CES05 = 50	CES30 = 94	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 90	CES56 = 87	CES81 = 72
CES07 = 42	CES32 = 84	CES57 = 86	CES82 = 96
CES08 = 41	CES33 = 92	CES58 = 87	CES83 = 94
CES09 = 29	CES34 = 93	CES59 = 91	CES84 = 92
CES10 = 76	CES35 = 96	CES60 = 94	CES85 = 78
CES11 = 59	CES36 = 91	CES61 = 90	CES86 = 67
CES12 = 65	CES37 = 96	CES62 = 95	CES87 = 85
CES13 = 43	CES38 = 99	CES63 = 88	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 79	CES90 = 87
CES16 = 47	CES41 = 97	CES66 = 83	CES91 = 83
CES17 = 50	CES42 = 98	CES67 = 82	CES92 = 65
CES18 = 56	CES43 = 93	CES68 = 84	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 61
CES20 = 67	CES45 = 94	CES70 = 81	CES95 = 75
CES21 = 87	CES46 = 90	CES71 = 80	CES96 = 83
CES22 = 79	CES47 = 93	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 83	CES73 = 77	CES98 = 84
CES24 = 91	CES49 = 91	CES74 = 93	CES99 = 75
CES25 = 72	CES50 = 95	CES75 = 82	



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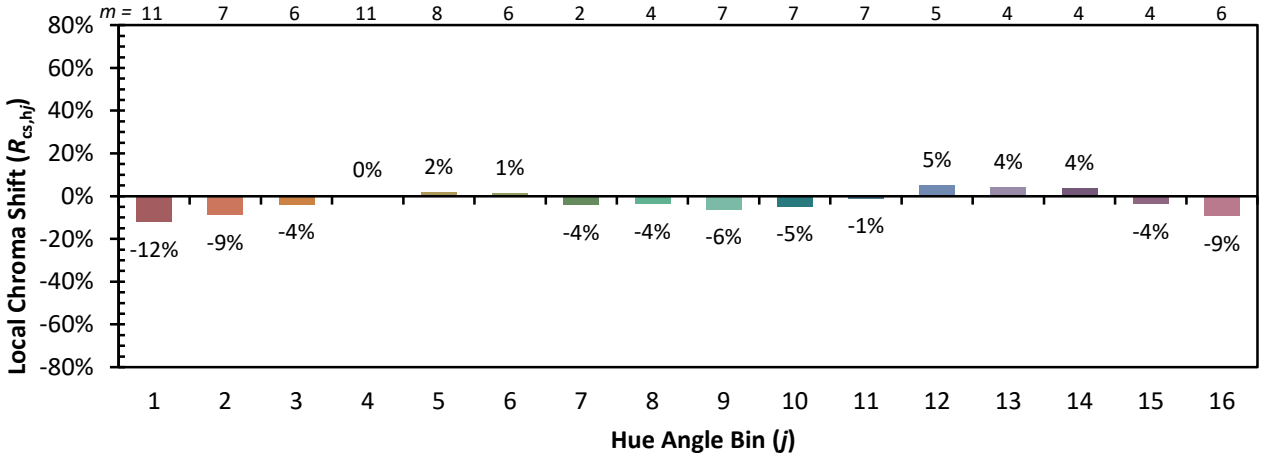
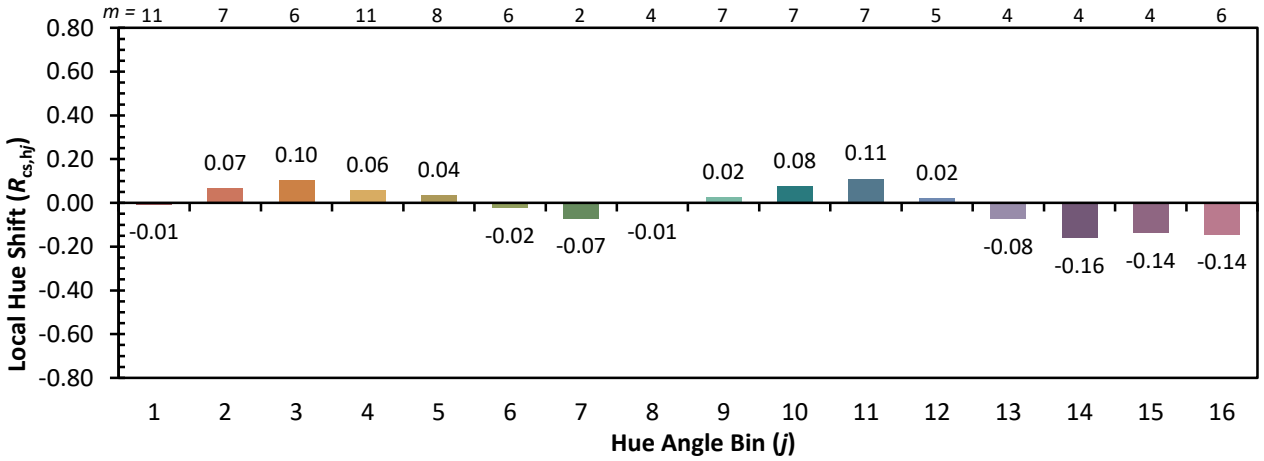
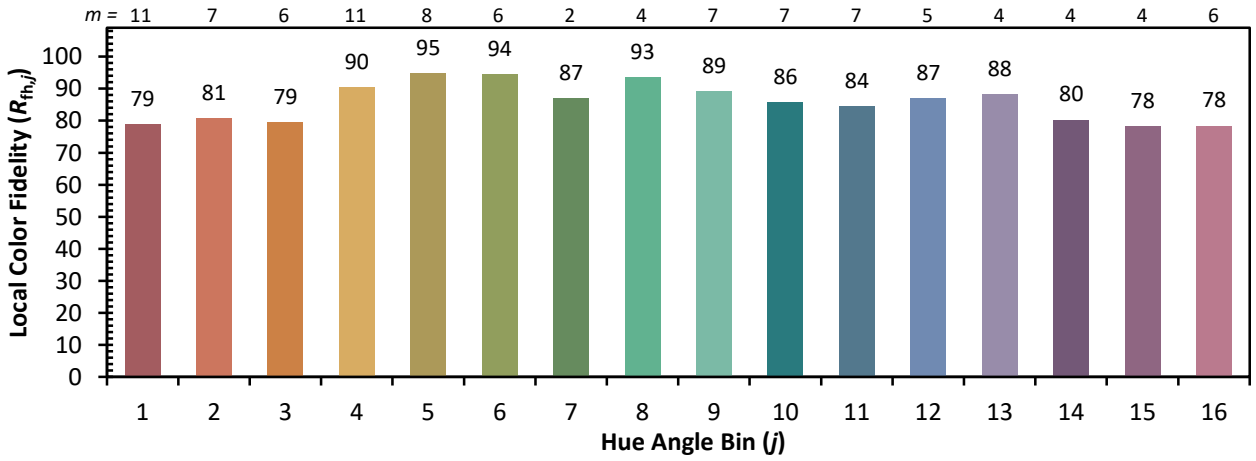
Color Rendition by Hue-Angle Bin







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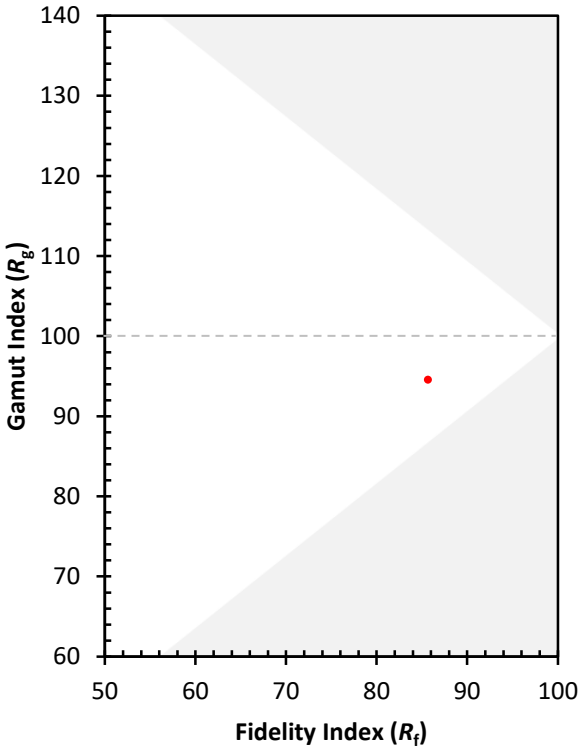
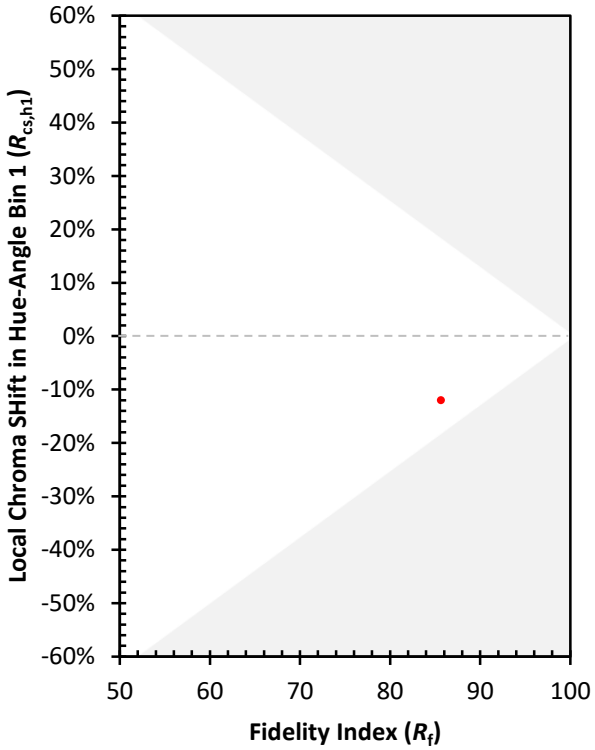
Measure Comparisons





(END OF REPORT)