

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: INVUE

Report Number: P472186

Luminaire Tested: **CCP-VA-4-830-U-T4W**

Issue Date: 01/27/2021



Test Information

Test Method: LM-79-08
Report Number: P472186
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCP-VA-4-830-U-T4W
Description: INVUE CLEARCURVE POLE MOUNT Wave Stream LUMINAIRE WITH T4W
DISTRIBUTION LENS
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5761.3 lumens
Efficiency: N/A
Efficacy: 100.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G2

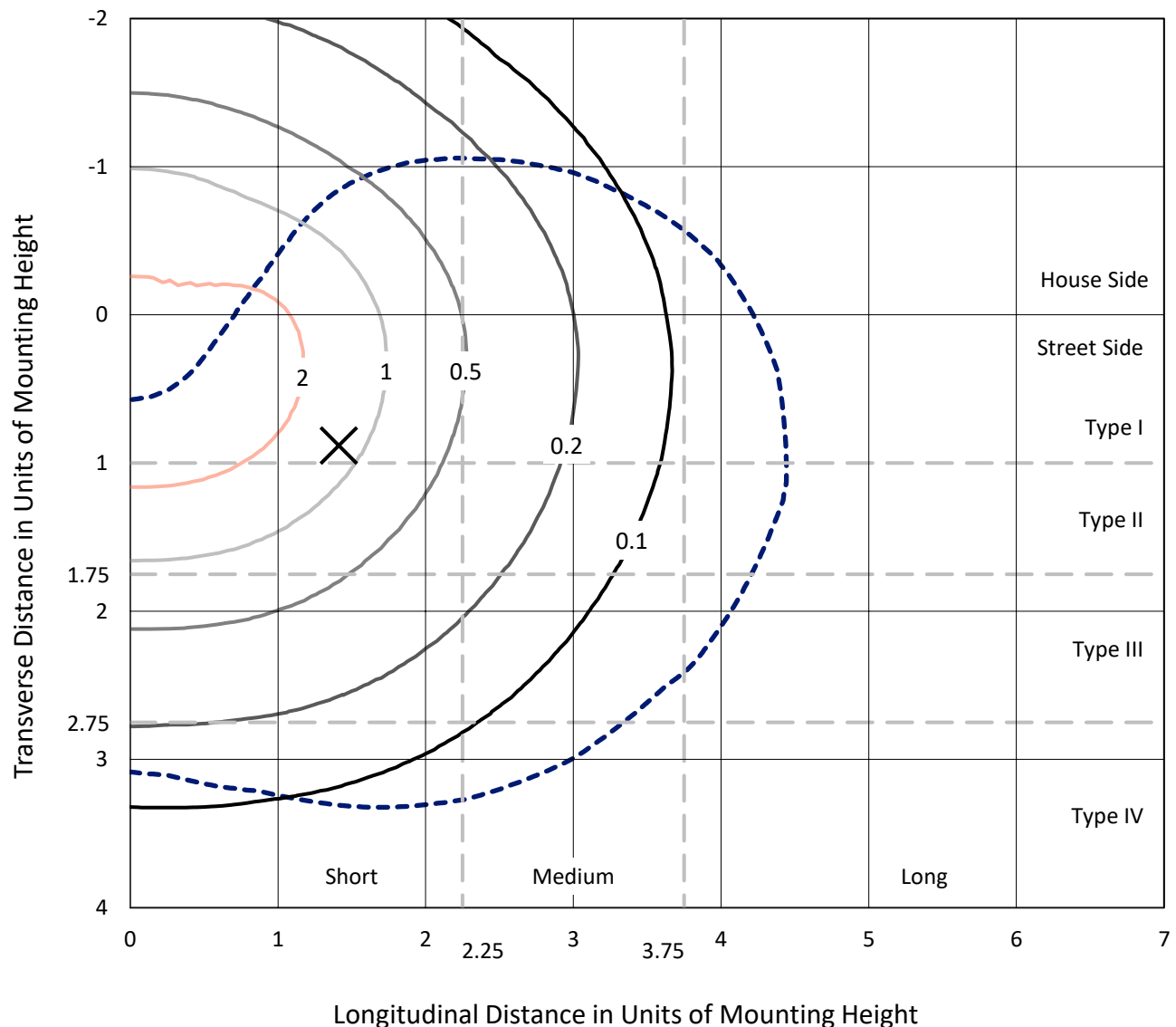
Input Watts (W): 57.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Iso-Footcandle Lines of Horizontal Illumination

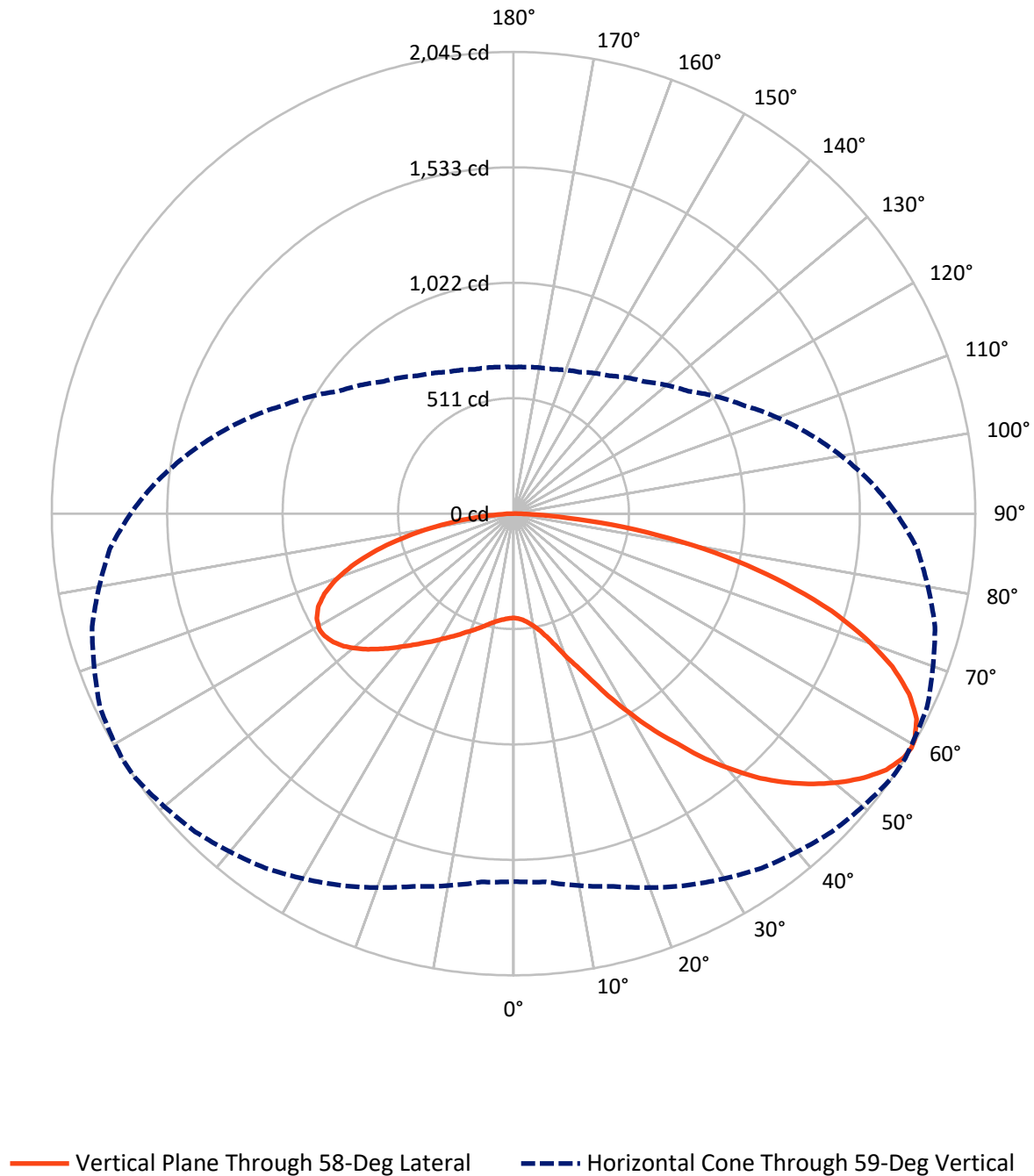
× Max cd
 --- 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 3.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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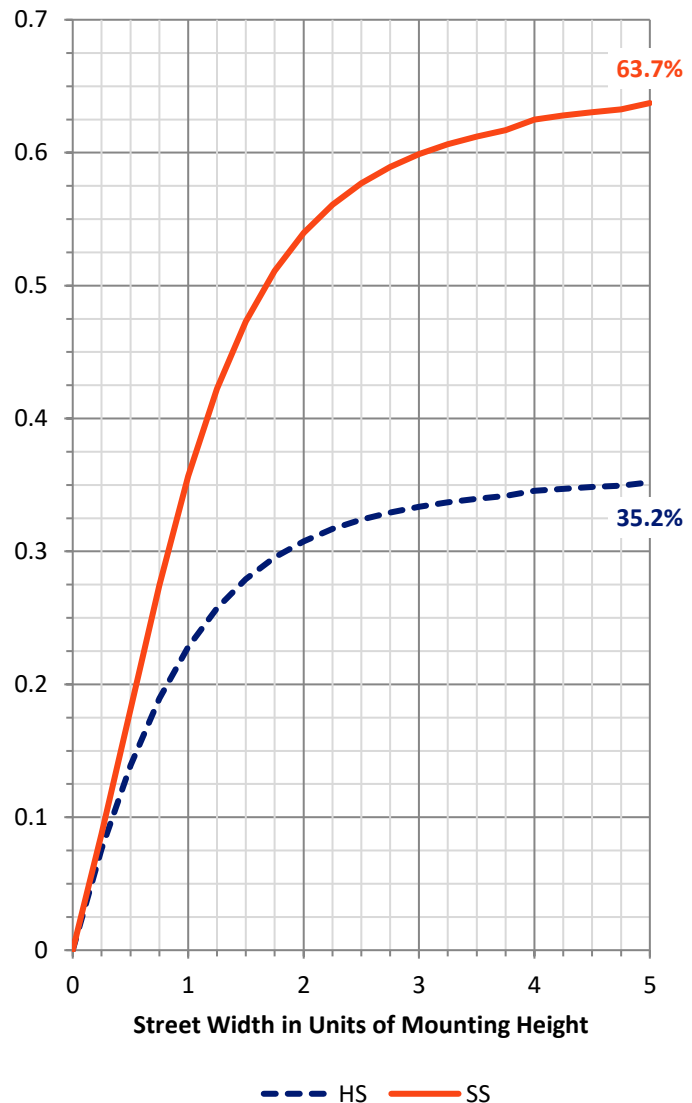
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2054.7	0.0	2054.7
	% Fixture	35.7	0.0	35.7
Street Side	Lumens	3706.6	0.0	3706.6
	% Fixture	64.3	0.0	64.3
Total	Lumens	5761.3	0.0	5761.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.8	0.8
10°-20°	156.3	2.7
20°-30°	329.8	5.7
30°-40°	607.0	10.5
40°-50°	946.2	16.4
50°-60°	1243.3	21.6
60°-70°	1302.8	22.6
70°-80°	903.2	15.7
80°-90°	226.8	3.9
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°	5761.3	100.0
0°-180°	5761.3	100.0

Coefficient of Utilization



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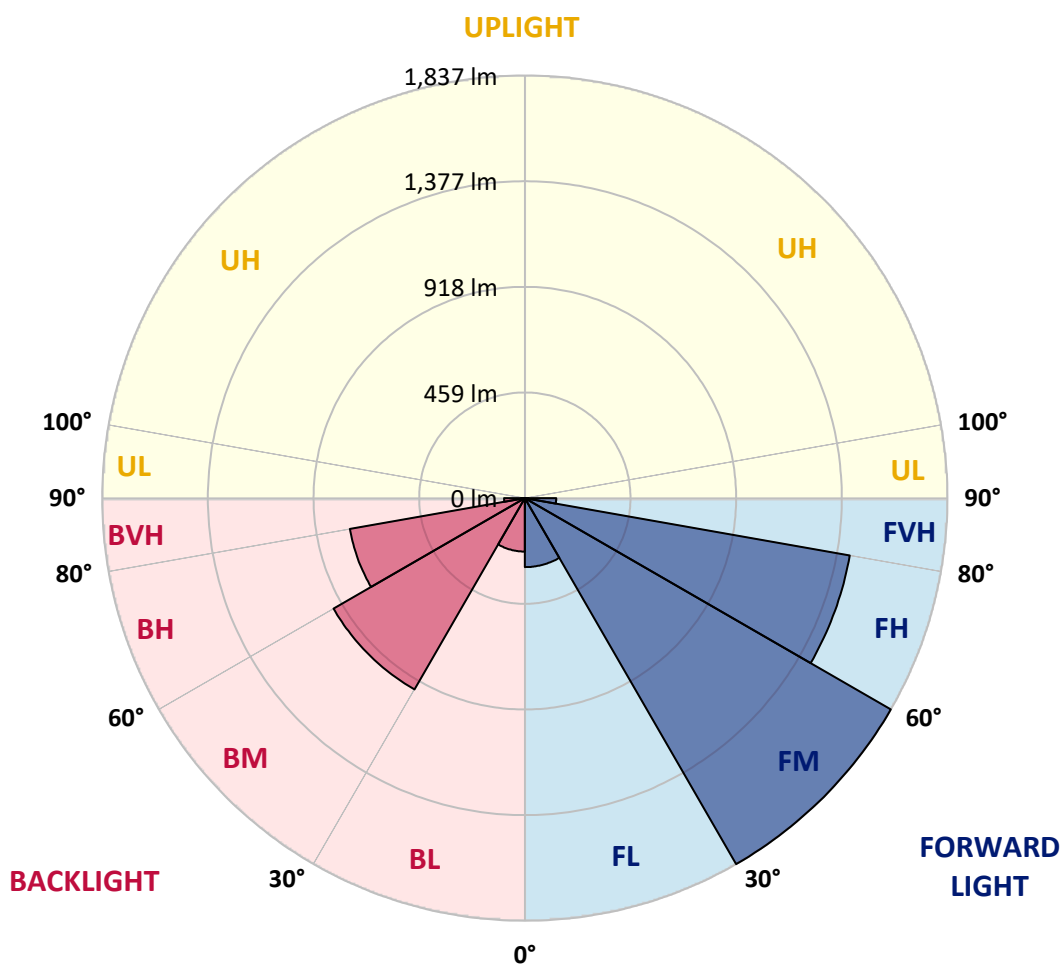
CATALOG NUMBER: CCP-VA-4-830-U-T4W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	299.7	5.2			
FM	(30°-60°)	1836.6	31.9			
FH	(60°-80°)	1434.0	24.9			G1/1800
FVH	(80°-90°)	136.3	2.4			G2/225
BL	(0°-30°)	232.2	4.0	B1/500		
BM	(30°-60°)	959.9	16.7	B1/1000		
BH	(60°-80°)	772.0	13.4	B2/1000		G2/1000
BVH	(80°-90°)	90.5	1.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9
2.5°	468.3	468.3	468.3	467.0	467.0	467.0	465.7	465.7	465.7	464.4	463.2
5°	478.7	478.7	477.4	478.7	477.4	476.1	474.8	474.8	474.8	473.5	472.2
7.5°	493.0	494.3	493.0	494.3	493.0	491.7	489.1	489.1	487.8	485.2	482.6
10°	515.0	515.0	515.0	513.7	512.4	511.2	509.9	508.6	507.3	503.4	499.5
12.5°	542.3	542.3	542.3	539.7	539.7	537.1	535.8	534.5	531.9	526.7	521.5
15°	576.0	574.7	578.6	578.6	577.3	577.3	573.4	570.8	568.2	560.5	548.8
17.5°	621.4	620.1	624.0	626.6	626.6	627.9	621.4	618.8	609.7	599.4	583.8
20°	682.4	679.8	683.7	686.3	683.7	686.3	679.8	681.1	668.1	650.0	625.3
22.5°	748.6	748.6	752.5	752.5	753.8	756.3	748.6	744.7	734.3	708.3	677.2
25°	830.3	836.8	836.8	836.8	842.0	843.3	835.5	829.0	814.7	779.7	736.9
27.5°	930.2	928.9	927.6	935.4	935.4	938.0	932.8	930.2	913.3	870.5	805.6
30°	1036.6	1028.8	1034.0	1036.6	1041.8	1045.7	1040.5	1032.7	1011.9	965.2	884.8
32.5°	1133.9	1139.1	1146.8	1149.4	1157.2	1158.5	1145.6	1145.6	1124.8	1065.1	982.1
35°	1244.1	1244.1	1264.9	1274.0	1274.0	1281.8	1262.3	1251.9	1237.7	1175.4	1070.3
37.5°	1340.2	1342.7	1359.6	1380.4	1383.0	1394.6	1380.4	1376.5	1350.5	1287.0	1170.2
40°	1429.7	1432.3	1453.0	1477.7	1491.9	1510.1	1495.8	1489.3	1462.1	1389.5	1270.1
42.5°	1499.7	1504.9	1530.9	1567.2	1590.5	1612.6	1606.1	1602.2	1564.6	1488.0	1362.2
45°	1552.9	1562.0	1598.3	1641.1	1673.6	1706.0	1707.3	1699.5	1664.5	1578.9	1451.7
47.5°	1595.7	1606.1	1646.3	1700.8	1750.1	1790.3	1798.1	1789.0	1756.6	1667.1	1532.2
50°	1630.8	1635.9	1681.4	1751.4	1812.4	1863.0	1878.5	1870.8	1842.2	1741.0	1602.2
52.5°	1648.9	1656.7	1708.6	1789.0	1863.0	1924.0	1947.3	1943.4	1909.7	1808.5	1664.5
55°	1658.0	1665.8	1726.8	1818.9	1901.9	1973.3	2001.8	2003.1	1970.7	1869.5	1722.9
57.5°	1647.6	1658.0	1724.2	1826.7	1918.8	1995.3	2039.4	2038.1	2012.2	1916.2	1772.2
59°	1629.5	1637.2	1708.6	1816.3	1916.2	1992.7	2043.3	2044.6	2021.3	1931.7	1794.2
60°	1608.7	1617.8	1690.4	1803.3	1905.8	1983.6	2036.8	2039.4	2020.0	1935.6	1803.3
62.5°	1537.3	1549.0	1629.5	1750.1	1861.7	1935.6	1999.2	2003.1	1992.7	1925.3	1809.8
65°	1437.5	1447.8	1534.8	1663.2	1780.0	1856.5	1916.2	1925.3	1924.0	1878.5	1783.8
67.5°	1315.5	1316.8	1398.5	1538.6	1660.6	1735.8	1792.9	1808.5	1820.2	1790.3	1707.3
70°	1168.9	1167.6	1246.7	1385.6	1507.5	1586.6	1643.7	1654.1	1683.9	1660.6	1593.1
72.5°	987.3	1002.8	1076.8	1193.6	1314.2	1402.4	1453.0	1472.5	1489.3	1494.5	1438.8
75°	816.0	832.9	891.3	1000.2	1104.0	1185.8	1240.3	1249.3	1280.5	1288.3	1236.4
77.5°	652.6	653.9	696.7	783.6	878.3	945.8	989.9	1013.2	1030.1	1045.7	991.2
80°	458.0	464.4	494.3	556.6	630.5	701.9	738.2	753.8	765.4	775.8	757.6
82.5°	286.7	289.3	308.8	346.4	397.0	437.2	474.8	487.8	490.4	513.7	511.2
85°	136.2	137.5	150.5	168.7	190.7	223.1	237.4	237.4	255.6	272.4	272.4
87.5°	18.2	18.2	22.1	24.6	31.1	40.2	55.8	57.1	67.5	75.2	81.7
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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CATALOG NUMBER: CCP-VA-4-830-U-T4W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9
2.5°	463.2	463.2	463.2	463.2	463.2	461.9	463.2	463.2	463.2	463.2	463.2
5°	472.2	470.9	469.6	468.3	468.3	467.0	467.0	467.0	467.0	467.0	467.0
7.5°	481.3	480.0	478.7	476.1	474.8	473.5	473.5	472.2	472.2	472.2	472.2
10°	496.9	495.6	490.4	486.5	483.9	482.6	481.3	480.0	478.7	478.7	478.7
12.5°	517.6	515.0	506.0	500.8	496.9	494.3	491.7	490.4	489.1	487.8	487.8
15°	543.6	537.1	525.4	517.6	512.4	508.6	504.7	502.1	500.8	499.5	499.5
17.5°	574.7	566.9	551.4	537.1	528.0	521.5	516.3	512.4	511.2	511.2	511.2
20°	613.6	600.7	578.6	559.2	544.9	535.8	528.0	524.1	522.8	521.5	520.2
22.5°	659.0	642.2	609.7	579.9	561.7	548.8	539.7	534.5	530.6	529.3	529.3
25°	710.9	686.3	643.5	607.2	582.5	564.3	552.7	546.2	539.7	537.1	537.1
27.5°	773.2	740.8	683.7	635.7	602.0	579.9	566.9	557.9	551.4	546.2	543.6
30°	840.7	804.4	727.8	666.8	624.0	599.4	583.8	573.4	564.3	555.3	554.0
32.5°	926.3	874.4	781.0	701.9	650.0	618.8	600.7	587.7	576.0	566.9	564.3
35°	1013.2	951.0	836.8	738.2	674.6	637.0	614.9	600.7	589.0	578.6	577.3
37.5°	1102.7	1036.6	897.8	781.0	703.2	657.8	630.5	614.9	600.7	590.3	589.0
40°	1196.1	1118.3	960.0	825.1	733.0	678.5	647.4	627.9	612.3	603.3	602.0
42.5°	1284.4	1200.0	1027.5	877.0	768.0	700.6	664.2	643.5	624.0	614.9	613.6
45°	1368.7	1277.9	1095.0	925.0	803.1	723.9	681.1	656.5	635.7	626.6	625.3
47.5°	1445.2	1354.4	1157.2	976.9	839.4	749.9	699.3	669.4	646.1	637.0	637.0
50°	1514.0	1419.3	1218.2	1024.9	873.1	775.8	714.8	681.1	657.8	648.7	647.4
52.5°	1578.9	1476.4	1271.4	1066.4	905.5	799.2	730.4	690.2	665.5	655.2	653.9
55°	1630.8	1528.3	1315.5	1100.1	927.6	814.7	740.8	695.4	668.1	659.0	657.8
57.5°	1676.2	1571.1	1346.6	1123.5	941.9	823.8	746.0	695.4	666.8	656.5	655.2
59°	1695.6	1589.2	1357.0	1130.0	944.5	825.1	744.7	691.5	661.6	651.3	648.7
60°	1706.0	1597.0	1360.9	1131.3	943.2	822.5	743.4	687.6	656.5	644.8	644.8
62.5°	1716.4	1603.5	1355.7	1120.9	928.9	808.2	730.4	672.0	637.0	624.0	624.0
65°	1694.3	1580.2	1325.9	1092.4	900.4	783.6	705.8	646.1	607.2	594.2	594.2
67.5°	1629.5	1523.1	1271.4	1039.2	853.6	740.8	665.5	604.6	568.2	554.0	550.1
70°	1519.2	1429.7	1185.8	962.6	790.1	686.3	614.9	556.6	518.9	504.7	499.5
72.5°	1371.3	1283.1	1071.6	869.2	705.8	614.9	552.7	496.9	455.4	441.1	442.4
75°	1167.6	1105.3	923.7	751.2	608.5	524.1	472.2	425.5	390.5	378.8	380.1
77.5°	947.1	895.2	748.6	612.3	496.9	432.0	387.9	350.3	326.9	320.4	316.6
80°	725.2	674.6	561.7	456.7	377.5	332.1	302.3	276.3	258.2	249.1	251.7
82.5°	486.5	455.4	372.3	302.3	256.9	224.4	214.1	197.2	190.7	185.5	189.4
85°	262.1	234.8	194.6	162.2	141.4	132.3	134.9	133.6	128.4	127.1	131.0
87.5°	85.6	73.9	57.1	48.0	49.3	44.1	44.1	41.5	37.6	36.3	38.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

INVUE

Report Number: SP1-2005-785-17

Luminaire Tested: WIS-VA-3-830-U-T4FT

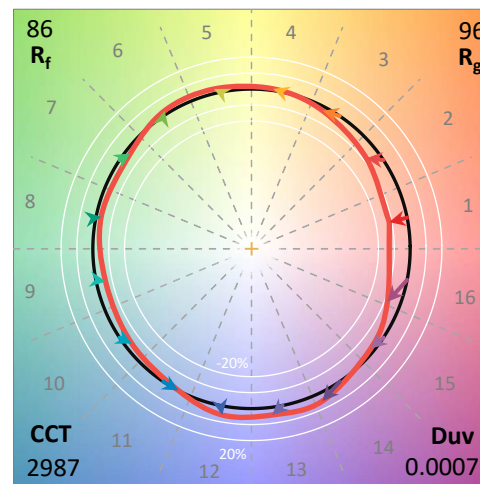
Test Date: 09/04/2020

Test Information

Test Method: LM-79-08
 Report Number: SP1-2005-785-17
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 09/04/2020
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: INVUE
 Catalog Number: **WIS-VA-3-830-U-T4FT**
 Description: INVUE WALL PACK VA

Spectral Parameters

CCT (K):	2987	CRI (Ra):	82.5		
CIE u':	0.2507	R1:	80.7	R9:	4.3
CIE v':	0.5225	R2:	91.2	R10:	80.9
Duv:	0.0007	R3:	95.7	R11:	81.4
CIE x:	0.4386	R4:	81.1	R12:	76.0
CIE y:	0.4063	R5:	81.6	R13:	83.2
CIE z:	0.1551	R6:	90.2	R14:	98.1
Peak Wavelength (nm):	601	R7:	82.2		
Dominant Wavelength (nm):	582	R8:	57.6		
Purity:	53.9				
Rf:	85.8				
Rg:	95.6				



Test Conditions

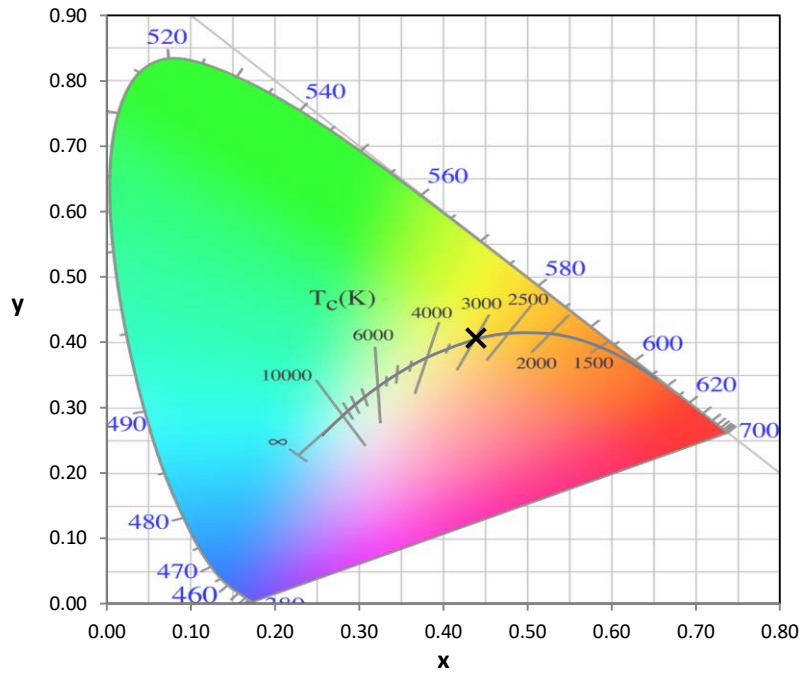
Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.0/46%
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2005-785-17

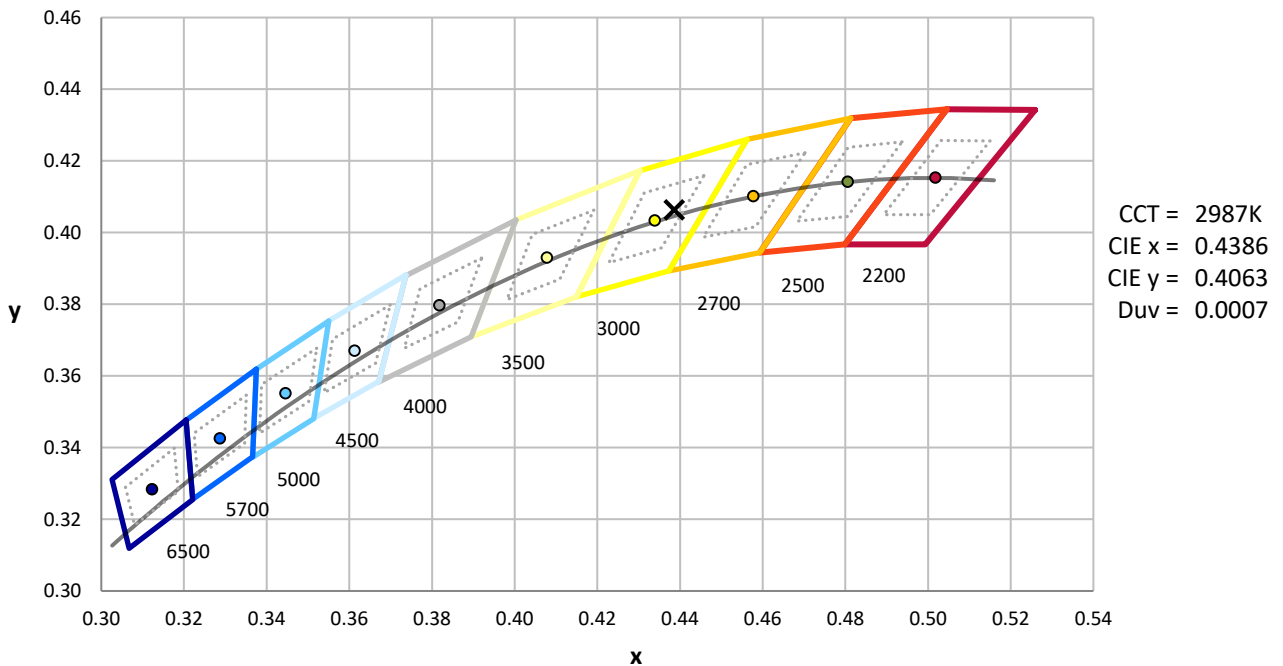
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	7/29/2020	1/29/2021
Power Meter	IN0071	12/3/2020	12/3/2020
AC Power Source	IN0063	12/3/2020	12/3/2020
DC Power Source	IN0208	12/3/2020	12/3/2020
Sphere Thermometer	IN0085	12/3/2020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

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CIE 1931 Chromaticity Diagram



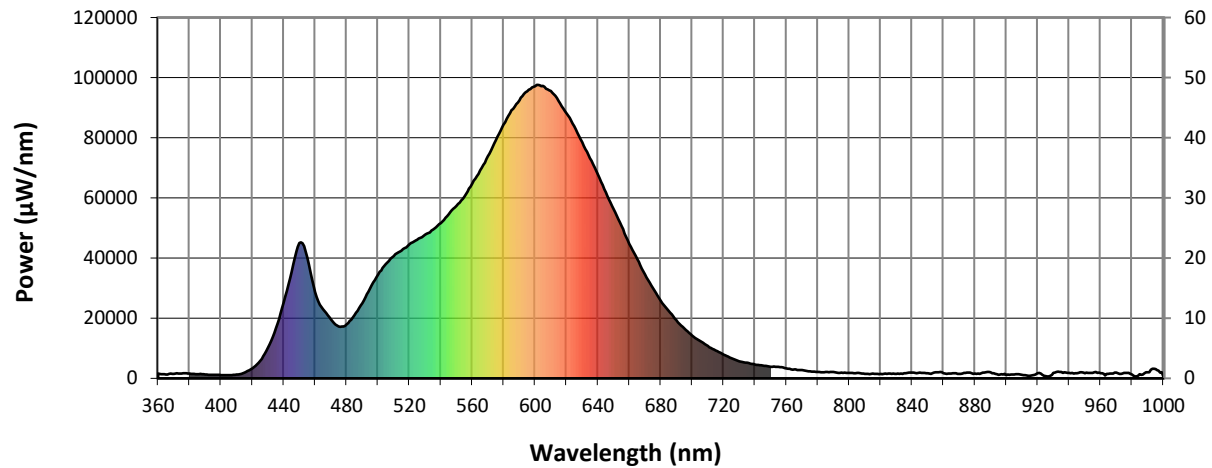
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

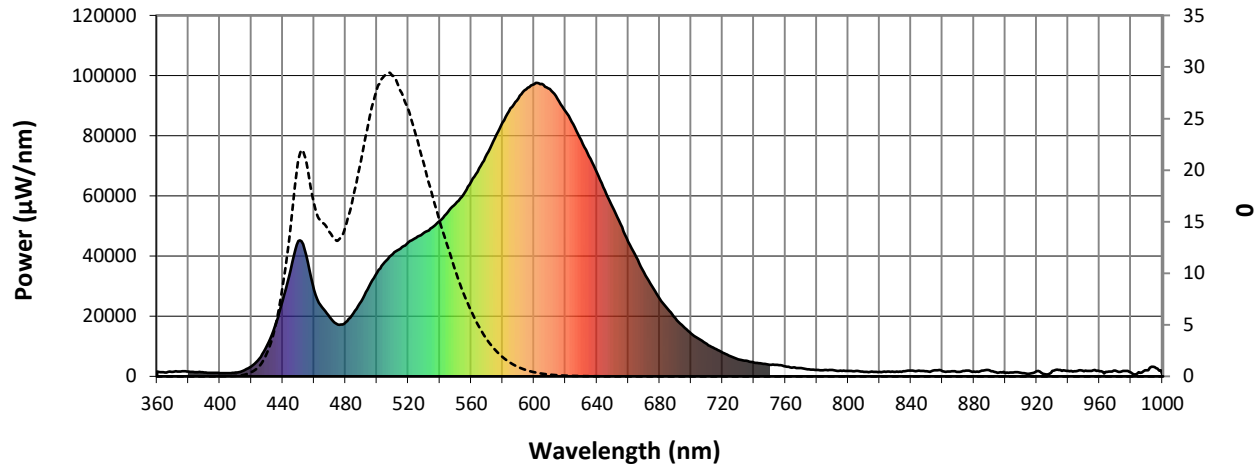


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λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	1572	0.0	490	25051	3.6	620	88122	22.9	750	3880	0.0	880	1567	0.0
365	1311	0.0	495	29917	5.4	625	83883	18.5	755	3794	0.0	885	1908	0.0
370	1500	0.0	500	34507	7.6	630	78488	14.2	760	3340	0.0	890	2037	0.0
375	1650	0.0	505	37997	10.6	635	73239	11.0	765	2960	0.0	895	1191	0.0
380	1578	0.0	510	40611	14.0	640	67764	8.1	770	2783	0.0	900	1120	0.0
385	1380	0.0	515	42442	17.6	645	61810	6.0	775	2303	0.0	905	1285	0.0
390	1297	0.0	520	44587	21.6	650	56275	4.1	780	2171	0.0	910	1168	0.0
395	1184	0.0	525	46130	24.8	655	50708	2.9	785	2102	0.0	915	856	0.0
400	1097	0.0	530	47823	28.2	660	44727	1.9	790	2130	0.0	920	1698	0.0
405	1038	0.0	535	49511	30.7	665	39711	1.3	795	1920	0.0	925	764	0.0
410	1248	0.0	540	51609	33.6	670	34567	0.8	800	1857	0.0	930	1865	0.0
415	1902	0.0	545	54602	36.3	675	30035	0.5	805	1823	0.0	935	2156	0.0
420	3351	0.0	550	57333	39.0	680	25916	0.3	810	1541	0.0	940	1840	0.0
425	5896	0.0	555	60488	41.3	685	22469	0.2	815	1562	0.0	945	1680	0.0
430	10239	0.1	560	64681	44.0	690	19323	0.1	820	1500	0.0	950	1740	0.0
435	16696	0.2	565	69167	46.0	695	16608	0.1	825	1550	0.0	955	1852	0.0
440	25253	0.4	570	73810	48.0	700	14258	0.0	830	1520	0.0	960	1723	0.0
445	35453	0.7	575	79163	49.3	705	12485	0.0	835	1684	0.0	965	1494	0.0
450	45054	1.2	580	84405	50.2	710	10708	0.0	840	1945	0.0	970	1928	0.0
455	40123	1.3	585	89227	49.6	715	9308	0.0	845	1927	0.0	975	1854	0.0
460	28740	1.2	590	92470	47.8	720	7916	0.0	850	1750	0.0	980	1234	0.0
465	23035	1.2	595	95474	45.3	725	6755	0.0	855	2033	0.0	985	1385	0.0
470	19569	1.2	600	97167	41.9	730	5662	0.0	860	1710	0.0	990	2021	0.0
475	17211	1.4	605	97220	37.6	735	5212	0.0	865	1620	0.0	995	3055	0.0
480	17940	1.7	610	95563	32.8	740	4614	0.0	870	1443	0.0	1000	626	0.0
485	20994	2.5	615	92290	27.9	745	4229	0.0	875	1944	0.0			

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Scotopic Flux vs. Wavelength



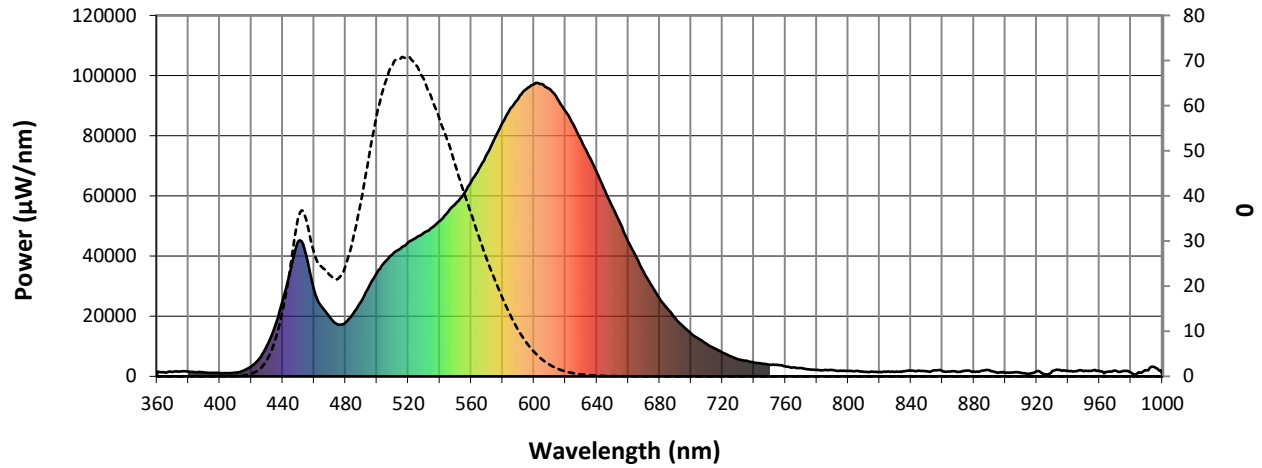
Scotopic Lumens: 2399.8

S/P: 0.51

λ (nm)	Power ($\mu\text{W/nm}$)	Lumens (Φ/nm)	λ (nm)	Power ($\mu\text{W/nm}$)	Lumens (Φ/nm)	λ (nm)	Power ($\mu\text{W/nm}$)	Lumens (Φ/nm)	λ (nm)	Power ($\mu\text{W/nm}$)	Lumens (Φ/nm)	λ (nm)	Power ($\mu\text{W/nm}$)	Lumens (Φ/nm)
360	1572	0.0	490	25051	38.6	620	88122	1.1	750	3880	0.0	880	1567	0.0
365	1311	0.0	495	29917	48.4	625	83883	0.7	755	3794	0.0	885	1908	0.0
370	1500	0.0	500	34507	57.7	630	78488	0.4	760	3340	0.0	890	2037	0.0
375	1650	0.0	505	37997	64.6	635	73239	0.3	765	2960	0.0	895	1191	0.0
380	1578	0.0	510	40611	68.8	640	67764	0.2	770	2783	0.0	900	1120	0.0
385	1380	0.0	515	42442	70.3	645	61810	0.1	775	2303	0.0	905	1285	0.0
390	1297	0.0	520	44587	70.9	650	56275	0.1	780	2171	0.0	910	1168	0.0
395	1184	0.0	525	46130	69.0	655	50708	0.0	785	2102	0.0	915	856	0.0
400	1097	0.0	530	47823	65.9	660	44727	0.0	790	2130	0.0	920	1698	0.0
405	1038	0.0	535	49511	61.7	665	39711	0.0	795	1920	0.0	925	764	0.0
410	1248	0.1	540	51609	57.0	670	34567	0.0	800	1857	0.0	930	1865	0.0
415	1902	0.2	545	54602	52.4	675	30035	0.0	805	1823	0.0	935	2156	0.0
420	3351	0.6	550	57333	46.9	680	25916	0.0	810	1541	0.0	940	1840	0.0
425	5896	1.4	555	60488	41.3	685	22469	0.0	815	1562	0.0	945	1680	0.0
430	10239	3.5	560	64681	36.2	690	19323	0.0	820	1500	0.0	950	1740	0.0
435	16696	7.5	565	69167	31.0	695	16608	0.0	825	1550	0.0	955	1852	0.0
440	25253	14.1	570	73810	26.0	700	14258	0.0	830	1520	0.0	960	1723	0.0
445	35453	23.7	575	79163	21.6	705	12485	0.0	835	1684	0.0	965	1494	0.0
450	45054	34.9	580	84405	17.4	710	10708	0.0	840	1945	0.0	970	1928	0.0
455	40123	35.1	585	89227	13.6	715	9308	0.0	845	1927	0.0	975	1854	0.0
460	28740	27.8	590	92470	10.3	720	7916	0.0	850	1750	0.0	980	1234	0.0
465	23035	24.3	595	95474	7.6	725	6755	0.0	855	2033	0.0	985	1385	0.0
470	19569	22.5	600	97167	5.5	730	5662	0.0	860	1710	0.0	990	2021	0.0
475	17211	21.5	605	97220	3.8	735	5212	0.0	865	1620	0.0	995	3055	0.0
480	17940	24.2	610	95563	2.6	740	4614	0.0	870	1443	0.0	1000	626	0.0
485	20994	30.4	615	92290	1.7	745	4229	0.0	875	1944	0.0			

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Melanopic Flux vs. Wavelength


Melanopic Lumens: 6328.9
S/P: 1.35

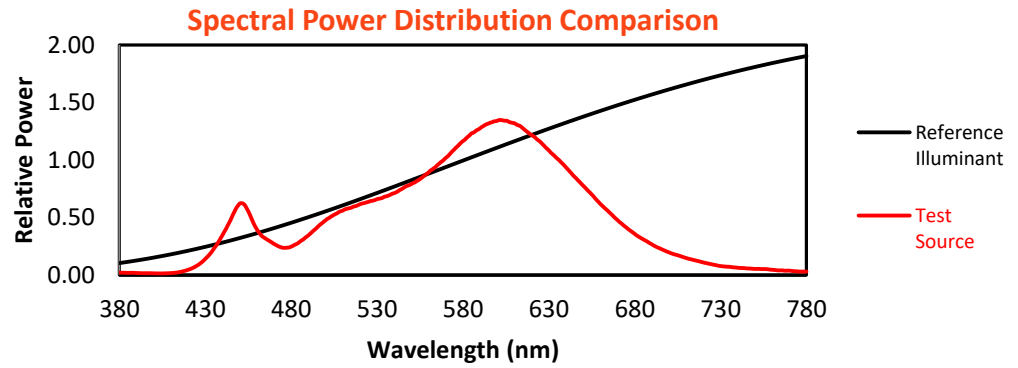
λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	1572	0.0	490	25051	20.8	620	88122	0.1	750	3880	0.0	880	1567	0.0
365	1311	0.0	495	29917	24.7	625	83883	0.0	755	3794	0.0	885	1908	0.0
370	1500	0.0	500	34507	27.7	630	78488	0.0	760	3340	0.0	890	2037	0.0
375	1650	0.0	505	37997	29.2	635	73239	0.0	765	2960	0.0	895	1191	0.0
380	1578	0.0	510	40611	29.2	640	67764	0.0	770	2783	0.0	900	1120	0.0
385	1380	0.0	515	42442	27.7	645	61810	0.0	775	2303	0.0	905	1285	0.0
390	1297	0.0	520	44587	26.0	650	56275	0.0	780	2171	0.0	910	1168	0.0
395	1184	0.0	525	46130	23.4	655	50708	0.0	785	2102	0.0	915	856	0.0
400	1097	0.0	530	47823	20.7	660	44727	0.0	790	2130	0.0	920	1698	0.0
405	1038	0.0	535	49511	17.8	665	39711	0.0	795	1920	0.0	925	764	0.0
410	1248	0.0	540	51609	15.1	670	34567	0.0	800	1857	0.0	930	1865	0.0
415	1902	0.1	545	54602	12.7	675	30035	0.0	805	1823	0.0	935	2156	0.0
420	3351	0.4	550	57333	10.3	680	25916	0.0	810	1541	0.0	940	1840	0.0
425	5896	0.9	555	60488	8.2	685	22469	0.0	815	1562	0.0	945	1680	0.0
430	10239	2.2	560	64681	6.4	690	19323	0.0	820	1500	0.0	950	1740	0.0
435	16696	4.5	565	69167	4.9	695	16608	0.0	825	1550	0.0	955	1852	0.0
440	25253	8.4	570	73810	3.6	700	14258	0.0	830	1520	0.0	960	1723	0.0
445	35453	14.0	575	79163	2.6	705	12485	0.0	835	1684	0.0	965	1494	0.0
450	45054	20.8	580	84405	1.9	710	10708	0.0	840	1945	0.0	970	1928	0.0
455	40123	21.0	585	89227	1.3	715	9308	0.0	845	1927	0.0	975	1854	0.0
460	28740	16.9	590	92470	0.9	720	7916	0.0	850	1750	0.0	980	1234	0.0
465	23035	15.1	595	95474	0.6	725	6755	0.0	855	2033	0.0	985	1385	0.0
470	19569	14.0	600	97167	0.4	730	5662	0.0	860	1710	0.0	990	2021	0.0
475	17211	13.1	605	97220	0.3	735	5212	0.0	865	1620	0.0	995	3055	0.0
480	17940	14.4	610	95563	0.2	740	4614	0.0	870	1443	0.0	1000	626	0.0
485	20994	17.3	615	92290	0.1	745	4229	0.0	875	1944	0.0			

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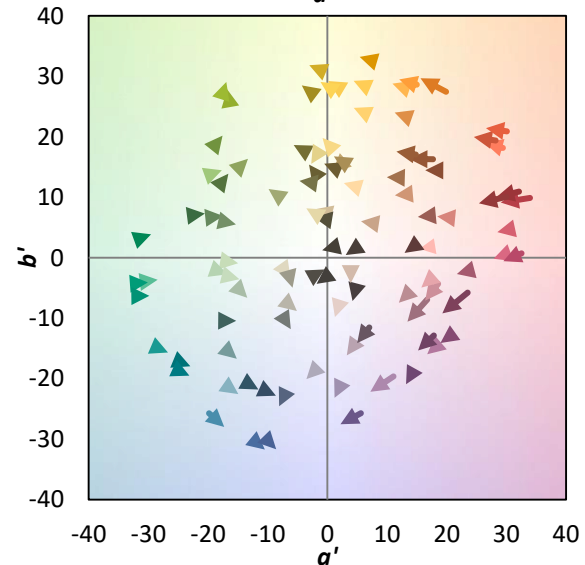
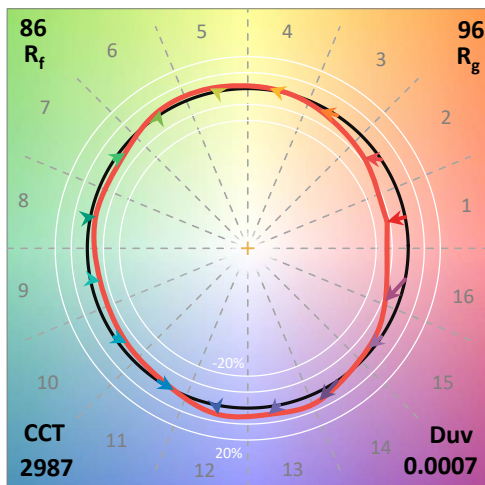
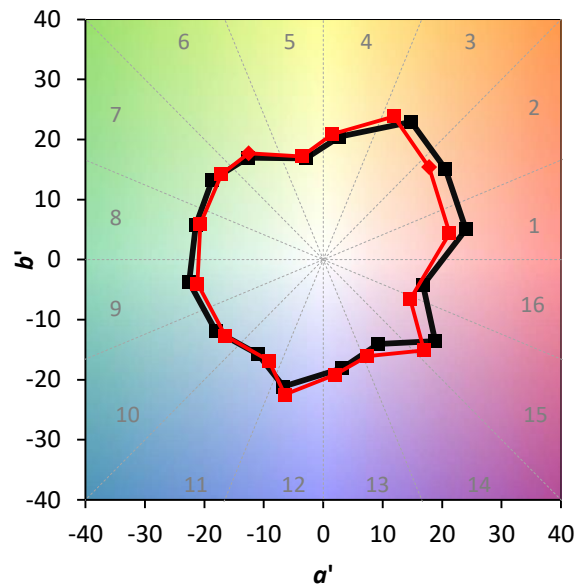
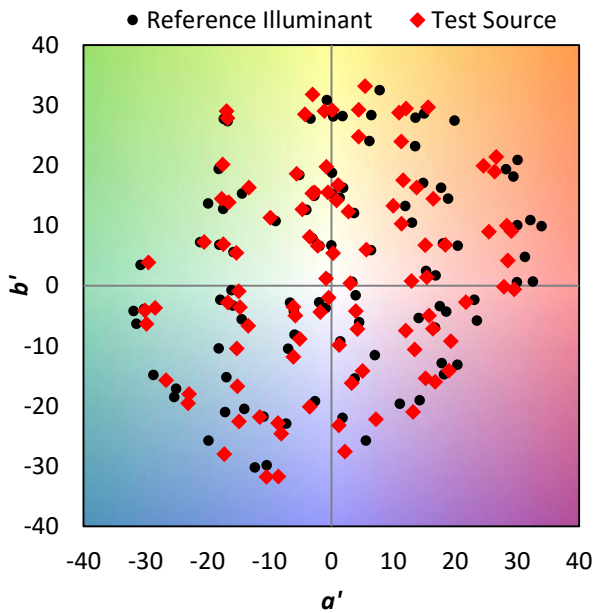
TM-30-18

Summary

$R_f = 85.8$
 $R_g = 95.6$
 CIE $R_a = 82.5$
 $R_9 = 4.3$

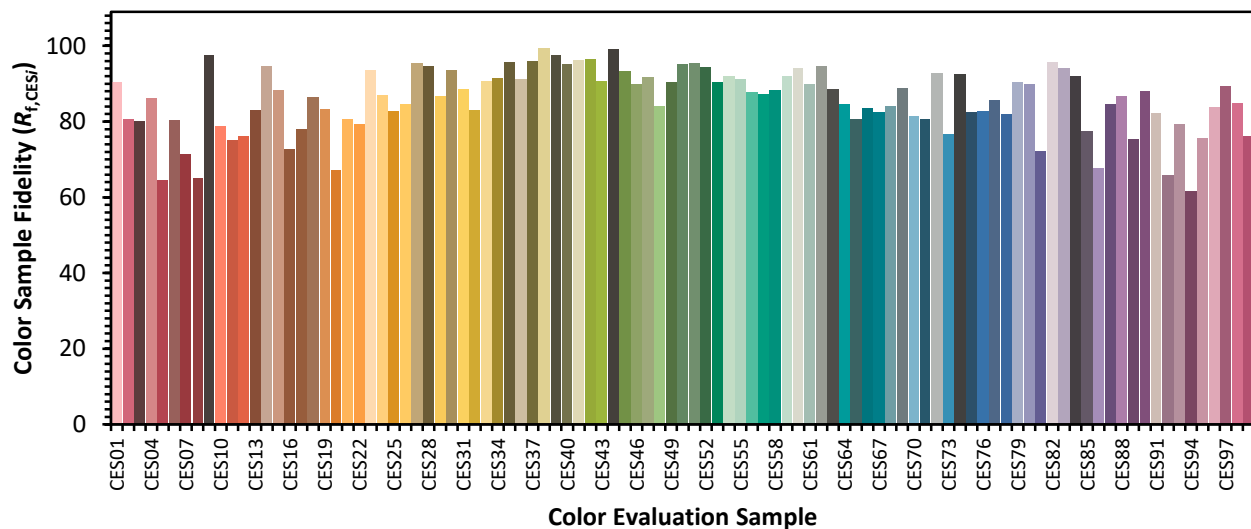


Color Vector Graphics

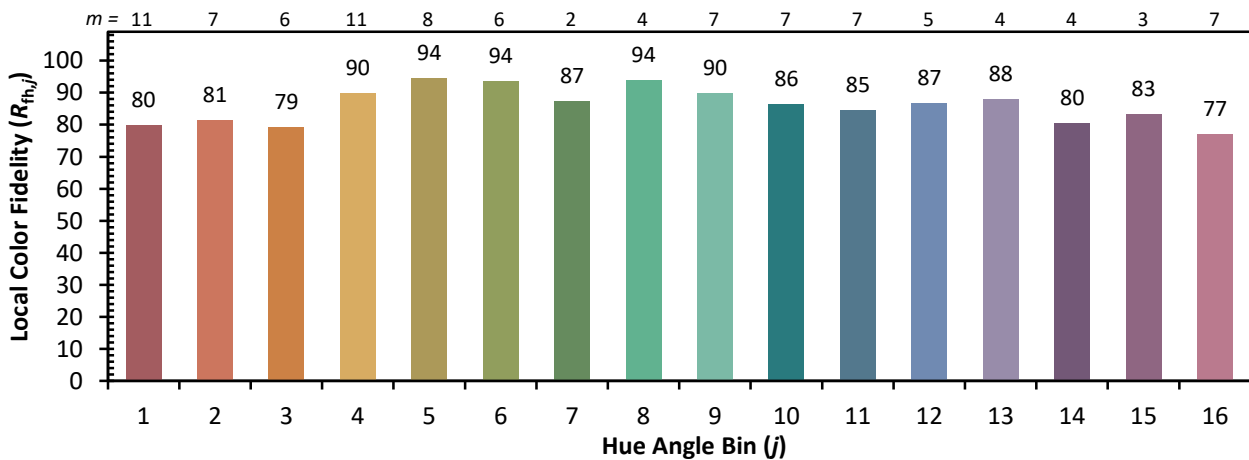
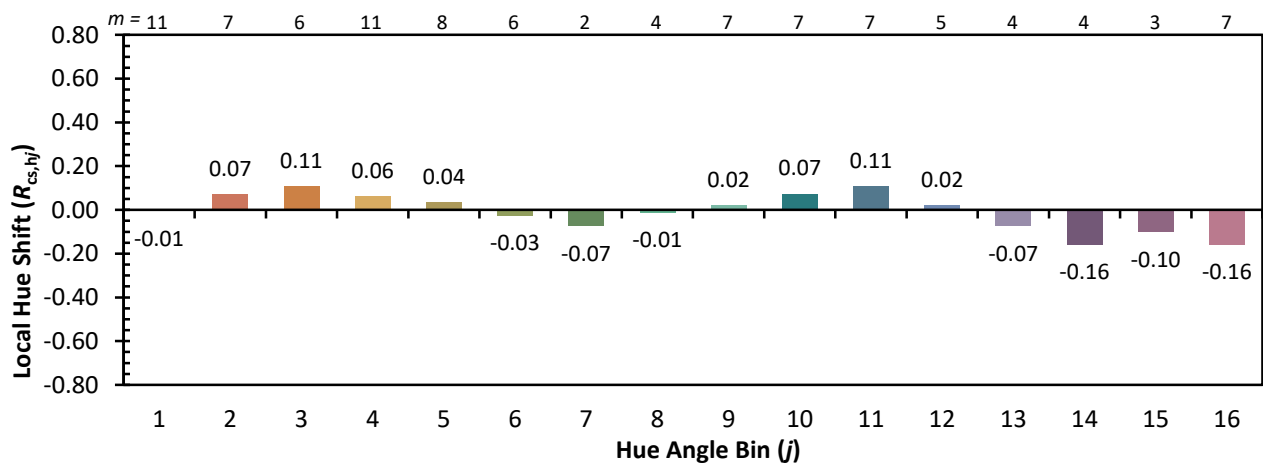
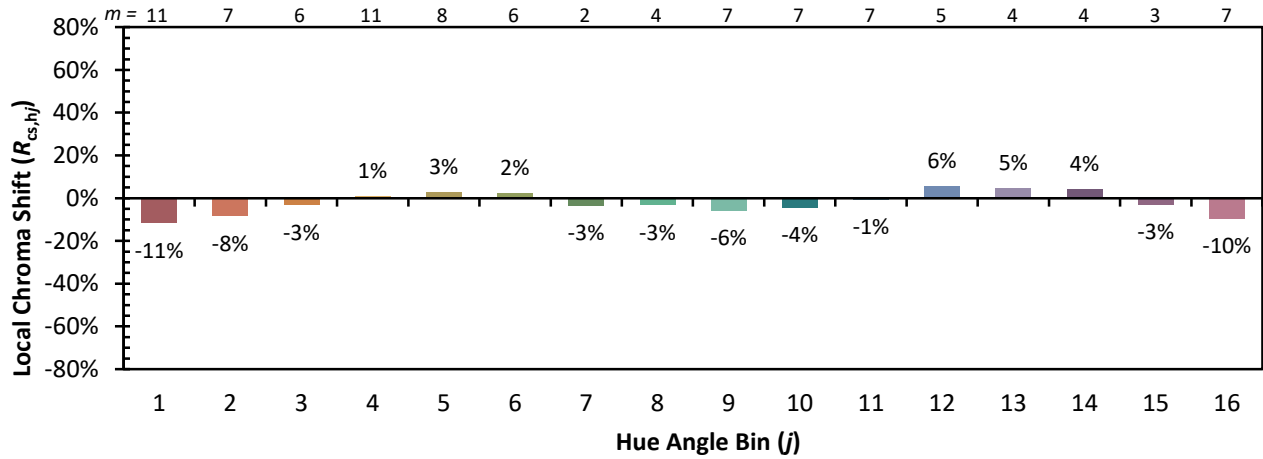


Individual Sample Fidelity Index ($R_{f,i}$)

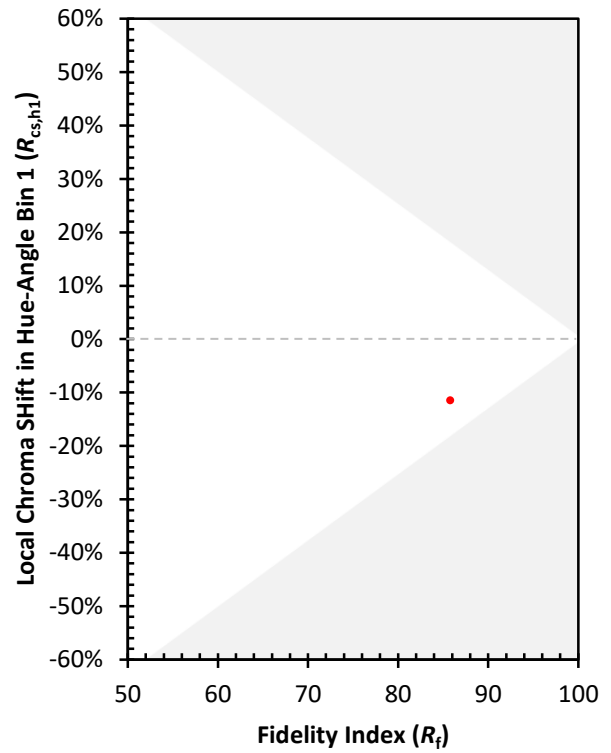
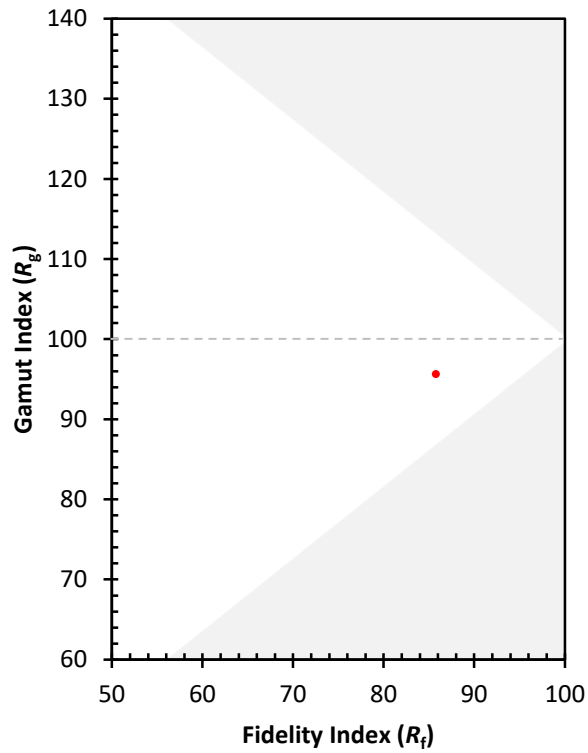
CES01 = 86	CES26 = 85	CES51 = 95	CES76 = 83
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 82
CES04 = 70	CES29 = 87	CES54 = 92	CES79 = 90
CES05 = 50	CES30 = 94	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 88	CES56 = 88	CES81 = 72
CES07 = 42	CES32 = 83	CES57 = 87	CES82 = 96
CES08 = 41	CES33 = 91	CES58 = 88	CES83 = 94
CES09 = 29	CES34 = 92	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 96	CES60 = 94	CES85 = 77
CES11 = 59	CES36 = 91	CES61 = 90	CES86 = 68
CES12 = 65	CES37 = 96	CES62 = 95	CES87 = 85
CES13 = 43	CES38 = 99	CES63 = 88	CES88 = 87
CES14 = 74	CES39 = 98	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 81	CES90 = 88
CES16 = 48	CES41 = 96	CES66 = 84	CES91 = 82
CES17 = 50	CES42 = 97	CES67 = 82	CES92 = 66
CES18 = 57	CES43 = 91	CES68 = 84	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 62
CES20 = 67	CES45 = 93	CES70 = 81	CES95 = 76
CES21 = 87	CES46 = 90	CES71 = 81	CES96 = 84
CES22 = 79	CES47 = 92	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 84	CES73 = 77	CES98 = 85
CES24 = 91	CES49 = 90	CES74 = 92	CES99 = 76
CES25 = 72	CES50 = 95	CES75 = 82	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)