

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: P472210

Luminaire Tested: **CCP-VA-4-860-U-T4W**

Issue Date: 01/27/2021



Test Information

Test Method: LM-79-08
Report Number: P472210
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCP-VA-4-860-U-T4W
Description: INVUE CLEARCURVE POLE MOUNT Wave Stream LUMINAIRE WITH T4W
DISTRIBUTION LENS
Light Source: 5700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6145.6 lumens
Efficiency: N/A
Efficacy: 106.7 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

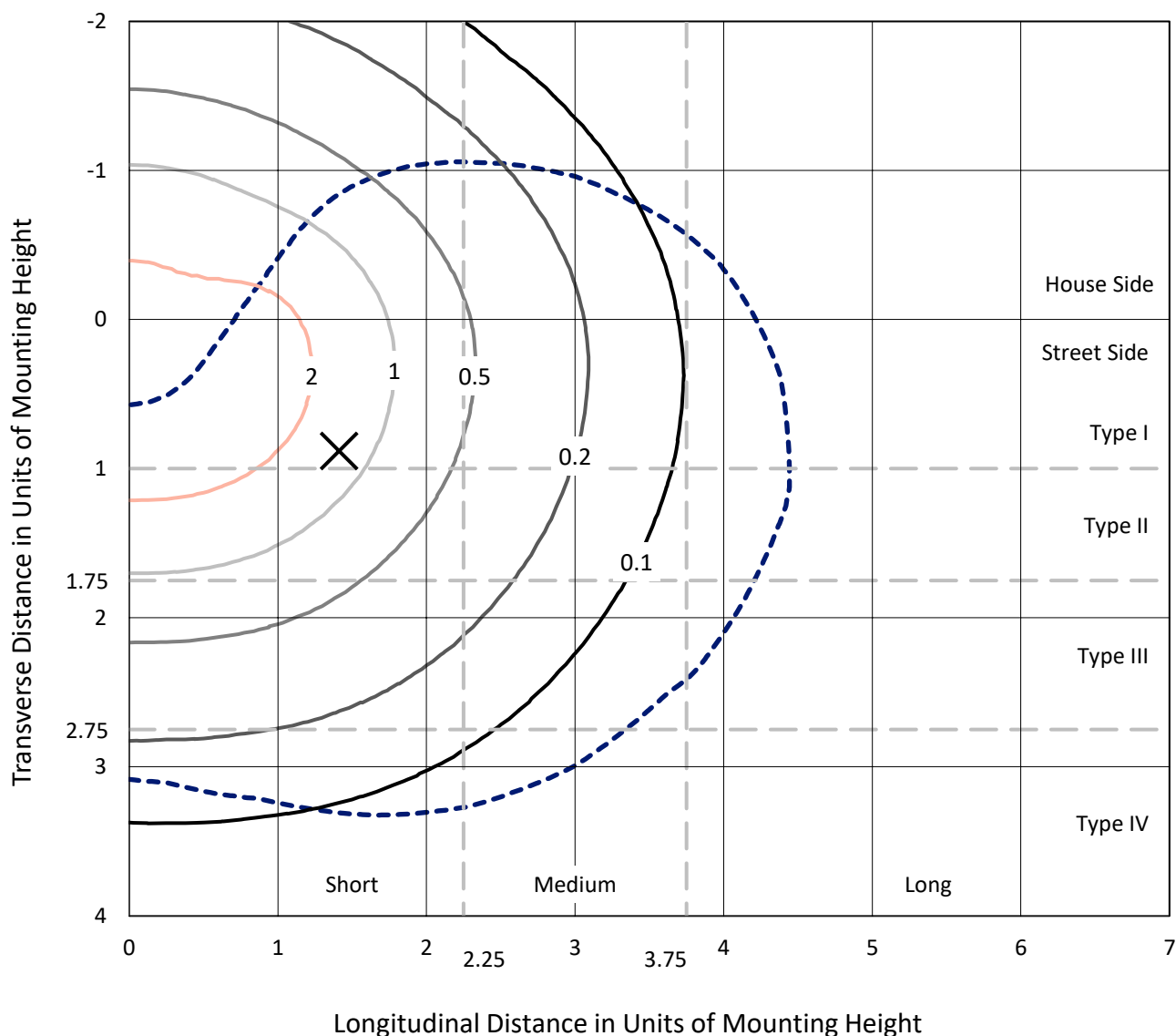
REPORT NUMBER: P472210

CATALOG NUMBER: CCP-VA-4-860-U-T4W

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

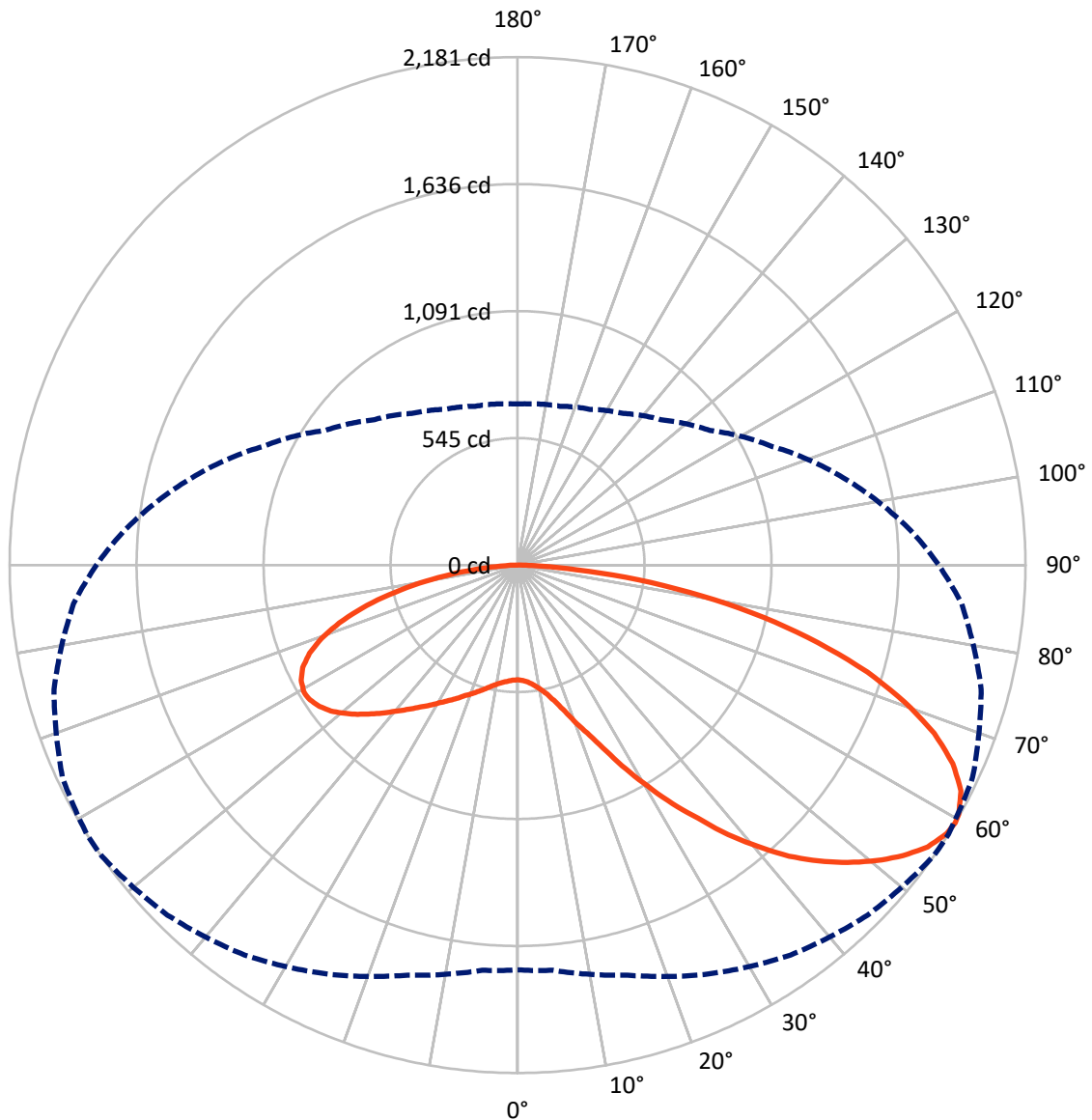


Based on 15 foot mounting height. Maximum calculated value = 3.3 fc

Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 59-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2191.7	0.0	2191.7
	% Fixture	35.7	0.0	35.7
Street Side	Lumens	3953.8	0.0	3953.8
	% Fixture	64.3	0.0	64.3
Total	Lumens	6145.6	0.0	6145.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.9	0.8
10°-20°	166.7	2.7
20°-30°	351.8	5.7
30°-40°	647.5	10.5
40°-50°	1009.3	16.4
50°-60°	1326.2	21.6
60°-70°	1389.7	22.6
70°-80°	963.5	15.7
80°-90°	241.9	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°	6145.6	100.0
0°-180°	6145.6	100.0

Coefficient of Utilization



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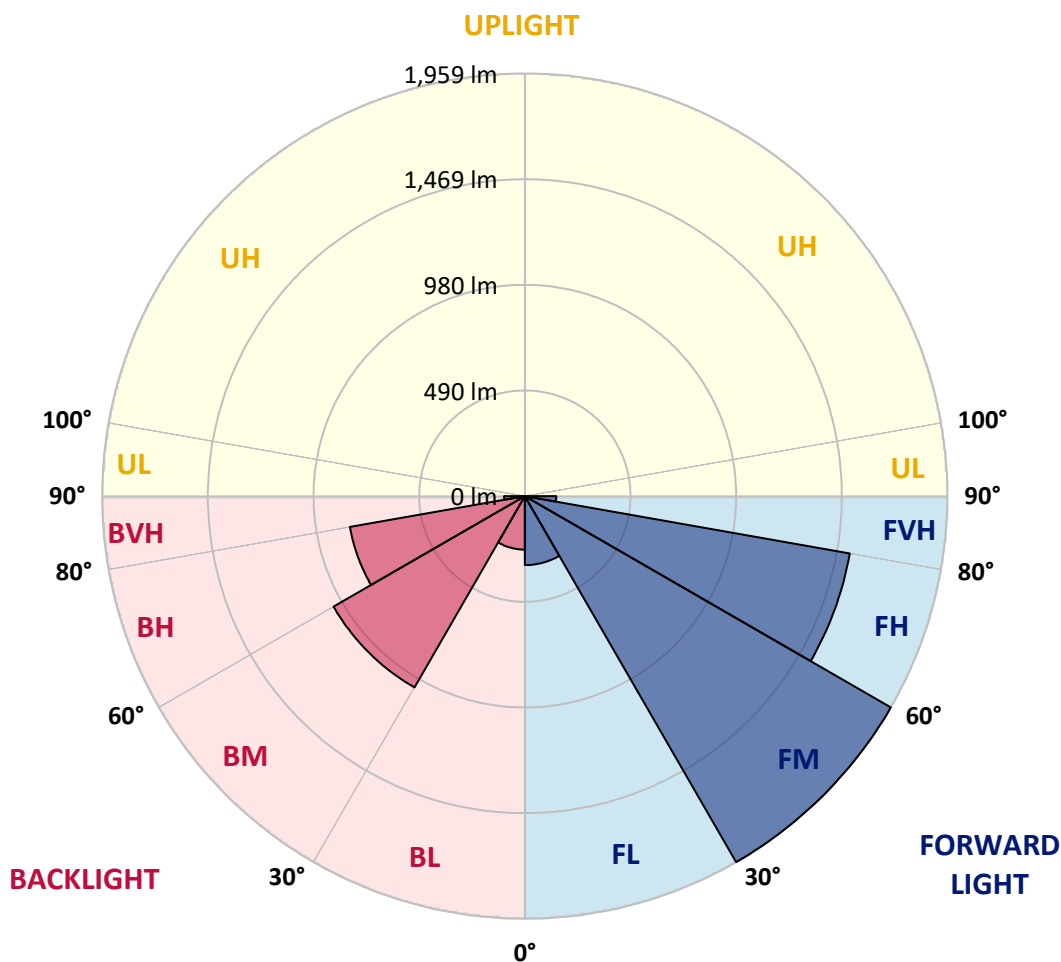
CATALOG NUMBER: CCP-VA-4-860-U-T4W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	319.7	5.2			
FM	(30°-60°)	1959.1	31.9			
FH	(60°-80°)	1529.7	24.9			G1/1800
FVH	(80°-90°)	145.4	2.4			G2/225
BL	(0°-30°)	247.7	4.0	B1/500		
BM	(30°-60°)	1024.0	16.7	B2/2500		
BH	(60°-80°)	823.5	13.4	B2/1000		G2/1000
BVH	(80°-90°)	96.6	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°	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7
2.5°	499.6	499.6	499.6	498.2	498.2	498.2	496.8	496.8	496.8	495.4	494.0
5°	510.7	510.7	509.3	510.7	509.3	507.9	506.5	506.5	506.5	505.1	503.7
7.5°	525.9	527.3	525.9	527.3	525.9	524.5	521.7	521.7	520.3	517.6	514.8
10°	549.4	549.4	549.4	548.0	546.6	545.3	543.9	542.5	541.1	536.9	532.8
12.5°	578.5	578.5	578.5	575.7	575.7	572.9	571.5	570.2	567.4	561.9	556.3
15°	614.4	613.1	617.2	617.2	615.8	615.8	611.7	608.9	606.1	597.8	585.4
17.5°	662.9	661.5	665.6	668.4	668.4	669.8	662.9	660.1	650.4	639.4	622.7
20°	727.9	725.2	729.3	732.1	729.3	732.1	725.2	726.5	712.7	693.3	667.0
22.5°	798.5	798.5	802.7	802.7	804.0	806.8	798.5	794.4	783.3	755.6	722.4
25°	885.7	892.6	892.6	892.6	898.1	899.5	891.2	884.3	869.1	831.7	786.0
27.5°	992.2	990.9	989.5	997.8	997.8	1000.5	995.0	992.2	974.3	928.6	859.4
30°	1105.7	1097.4	1103.0	1105.7	1111.3	1115.4	1109.9	1101.6	1079.4	1029.6	943.8
32.5°	1209.5	1215.1	1223.4	1226.1	1234.4	1235.8	1222.0	1222.0	1199.8	1136.2	1047.6
35°	1327.1	1327.1	1349.3	1359.0	1359.0	1367.3	1346.5	1335.5	1320.2	1253.8	1141.7
37.5°	1429.6	1432.3	1450.3	1472.5	1475.2	1487.7	1472.5	1468.3	1440.6	1372.8	1248.3
40°	1525.0	1527.8	1550.0	1576.2	1591.5	1610.8	1595.6	1588.7	1559.6	1482.1	1354.8
42.5°	1599.8	1605.3	1633.0	1671.7	1696.6	1720.2	1713.3	1709.1	1669.0	1587.3	1453.1
45°	1656.5	1666.2	1704.9	1750.6	1785.2	1819.8	1821.2	1812.9	1775.5	1684.2	1548.6
47.5°	1702.2	1713.3	1756.2	1814.3	1866.9	1909.8	1918.1	1908.4	1873.8	1778.3	1634.4
50°	1739.5	1745.1	1793.5	1868.2	1933.3	1987.3	2003.9	1995.6	1965.1	1857.2	1709.1
52.5°	1758.9	1767.2	1822.6	1908.4	1987.3	2052.3	2077.2	2073.1	2037.1	1929.1	1775.5
55°	1768.6	1776.9	1842.0	1940.2	2028.8	2104.9	2135.3	2136.7	2102.1	1994.2	1837.8
57.5°	1757.5	1768.6	1839.2	1948.5	2046.8	2128.4	2175.5	2174.1	2146.4	2044.0	1890.4
59°	1738.2	1746.5	1822.6	1937.4	2044.0	2125.6	2179.6	2181.0	2156.1	2060.6	1913.9
60°	1716.0	1725.7	1803.2	1923.6	2032.9	2116.0	2172.7	2175.5	2154.7	2064.8	1923.6
62.5°	1639.9	1652.4	1738.2	1866.9	1985.9	2064.8	2132.6	2136.7	2125.6	2053.7	1930.5
65°	1533.3	1544.4	1637.1	1774.1	1898.7	1980.3	2044.0	2053.7	2052.3	2003.9	1902.8
67.5°	1403.3	1404.6	1491.8	1641.3	1771.4	1851.6	1912.5	1929.1	1941.6	1909.8	1821.2
70°	1246.9	1245.5	1329.9	1478.0	1608.1	1692.5	1753.4	1764.5	1796.3	1771.4	1699.4
72.5°	1053.1	1069.7	1148.6	1273.2	1401.9	1496.0	1550.0	1570.7	1588.7	1594.2	1534.7
75°	870.5	888.5	950.7	1067.0	1177.7	1264.9	1323.0	1332.7	1365.9	1374.2	1318.8
77.5°	696.1	697.5	743.1	835.9	936.9	1008.9	1055.9	1080.8	1098.8	1115.4	1057.3
80°	488.5	495.4	527.3	593.7	672.6	748.7	787.4	804.0	816.5	827.6	808.2
82.5°	305.8	308.6	329.4	369.5	423.5	466.4	506.5	520.3	523.1	548.0	545.3
85°	145.3	146.7	160.5	179.9	203.4	238.0	253.3	253.3	272.6	290.6	290.6
87.5°	19.4	19.4	23.5	26.3	33.2	42.9	59.5	60.9	72.0	80.3	87.2
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-4-860-U-T4W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7	492.7
2.5°	494.0	494.0	494.0	494.0	494.0	492.7	494.0	494.0	494.0	494.0	494.0
5°	503.7	502.4	501.0	499.6	499.6	498.2	498.2	498.2	498.2	498.2	498.2
7.5°	513.4	512.0	510.7	507.9	506.5	505.1	505.1	503.7	503.7	503.7	503.7
10°	530.0	528.6	523.1	519.0	516.2	514.8	513.4	512.0	510.7	510.7	510.7
12.5°	552.2	549.4	539.7	534.2	530.0	527.3	524.5	523.1	521.7	520.3	520.3
15°	579.8	572.9	560.5	552.2	546.6	542.5	538.3	535.6	534.2	532.8	532.8
17.5°	613.1	604.8	588.2	572.9	563.2	556.3	550.8	546.6	545.3	545.3	545.3
20°	654.6	640.7	617.2	596.5	581.2	571.5	563.2	559.1	557.7	556.3	554.9
22.5°	703.0	685.0	650.4	618.6	599.2	585.4	575.7	570.2	566.0	564.6	564.6
25°	758.4	732.1	686.4	647.7	621.4	602.0	589.5	582.6	575.7	572.9	572.9
27.5°	824.8	790.2	729.3	678.1	642.1	618.6	604.8	595.1	588.2	582.6	579.8
30°	896.8	858.0	776.4	711.3	665.6	639.4	622.7	611.7	602.0	592.3	590.9
32.5°	988.1	932.7	833.1	748.7	693.3	660.1	640.7	626.9	614.4	604.8	602.0
35°	1080.8	1014.4	892.6	787.4	719.6	679.5	656.0	640.7	628.3	617.2	615.8
37.5°	1176.3	1105.7	957.6	833.1	750.1	701.6	672.6	656.0	640.7	629.7	628.3
40°	1275.9	1192.9	1024.1	880.2	781.9	723.8	690.6	669.8	653.2	643.5	642.1
42.5°	1370.0	1280.1	1096.0	935.5	819.3	747.3	708.5	686.4	665.6	656.0	654.6
45°	1460.0	1363.1	1168.0	986.7	856.6	772.2	726.5	700.2	678.1	668.4	667.0
47.5°	1541.6	1444.8	1234.4	1042.1	895.4	799.9	745.9	714.1	689.2	679.5	679.5
50°	1615.0	1514.0	1299.5	1093.3	931.4	827.6	762.5	726.5	701.6	691.9	690.6
52.5°	1684.2	1574.9	1356.2	1137.6	966.0	852.5	779.1	736.2	709.9	698.9	697.5
55°	1739.5	1630.2	1403.3	1173.5	989.5	869.1	790.2	741.8	712.7	703.0	701.6
57.5°	1788.0	1675.9	1436.5	1198.4	1004.7	878.8	795.7	741.8	711.3	700.2	698.9
59°	1808.7	1695.3	1447.5	1205.4	1007.5	880.2	794.4	737.6	705.8	694.7	691.9
60°	1819.8	1703.6	1451.7	1206.7	1006.1	877.4	793.0	733.5	700.2	687.8	687.8
62.5°	1830.9	1710.5	1446.2	1195.7	990.9	862.2	779.1	716.9	679.5	665.6	665.6
65°	1807.4	1685.6	1414.3	1165.2	960.4	835.9	752.8	689.2	647.7	633.8	633.8
67.5°	1738.2	1624.7	1356.2	1108.5	910.6	790.2	709.9	644.9	606.1	590.9	586.8
70°	1620.5	1525.0	1264.9	1026.8	842.8	732.1	656.0	593.7	553.6	538.3	532.8
72.5°	1462.8	1368.7	1143.1	927.2	752.8	656.0	589.5	530.0	485.7	470.5	471.9
75°	1245.5	1179.1	985.3	801.3	649.0	559.1	503.7	453.9	416.5	404.1	405.5
77.5°	1010.2	954.9	798.5	653.2	530.0	460.8	413.8	373.6	348.7	341.8	337.7
80°	773.6	719.6	599.2	487.1	402.7	354.3	322.4	294.8	275.4	265.7	268.5
82.5°	519.0	485.7	397.2	322.4	274.0	239.4	228.3	210.4	203.4	197.9	202.0
85°	279.5	250.5	207.6	173.0	150.8	141.2	143.9	142.5	137.0	135.6	139.8
87.5°	91.3	78.9	60.9	51.2	52.6	47.1	47.1	44.3	40.1	38.7	41.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

INVUE

Report Number: SP1-2005-785-20

Luminaire Tested: WIS-VA-3-857-U-T4FT

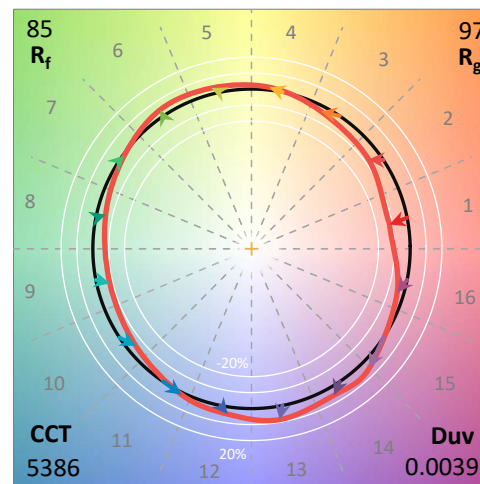
Test Date: 09/11/2020

Test Information

Test Method: LM-79-08
 Report Number: SP1-2005-785-20
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 09/11/2020
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: INVUE
 Catalog Number: **WIS-VA-3-857-U-T4FT**
 Description: INVUE WALL PACK VA

Spectral Parameters

CCT (K):	5386	CRI (Ra):	83.7		
CIE u':	0.2049	R1:	81.8	R9:	10.3
CIE v':	0.4830	R2:	87.3	R10:	70.9
Duv:	0.0039	R3:	92.0	R11:	85.0
CIE x:	0.3352	R4:	84.6	R12:	66.4
CIE y:	0.3511	R5:	83.2	R13:	83.0
CIE z:	0.3137	R6:	83.3	R14:	95.8
Peak Wavelength (nm):	450	R7:	87.5		
Dominant Wavelength (nm):	559	R8:	69.6		
Purity:	6.1				
Rf:	84.9				
Rg:	97				



Test Conditions

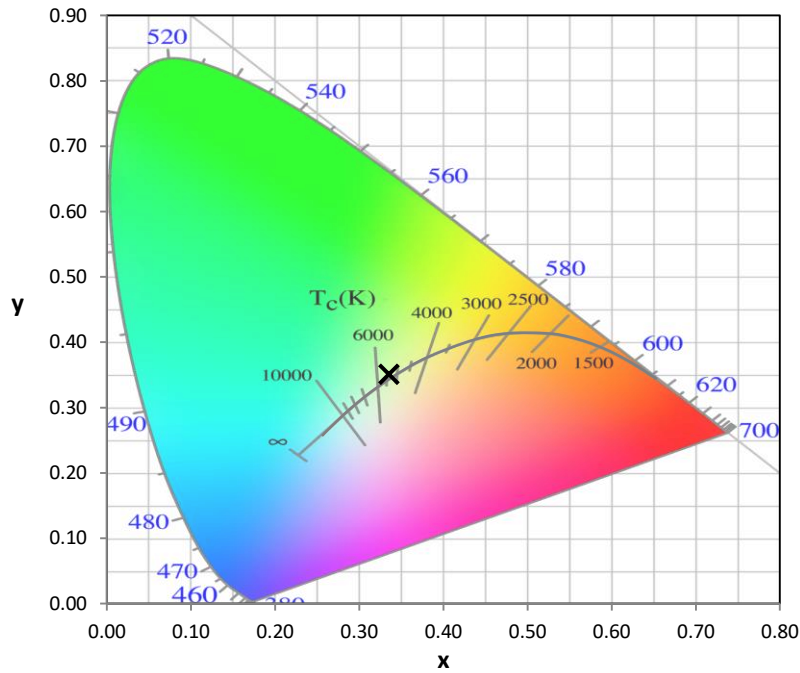
Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.1/46%
 Sphere Temperature (°C): 24.8

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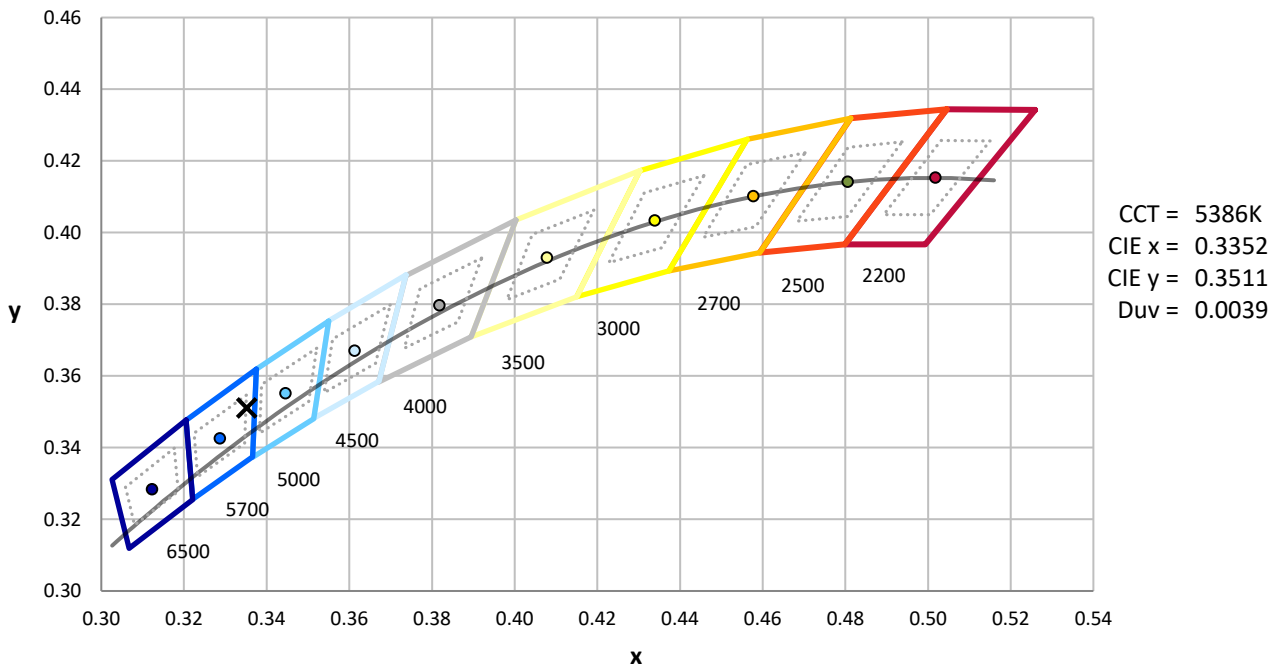
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	7/29/2020	1/29/2021
Power Meter	IN0071	12/3/2020	12/3/2020
AC Power Source	IN0063	12/3/2020	12/3/2020
DC Power Source	IN0208	12/3/2020	12/3/2020
Sphere Thermometer	IN0085	12/3/2020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

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CIE 1931 Chromaticity Diagram



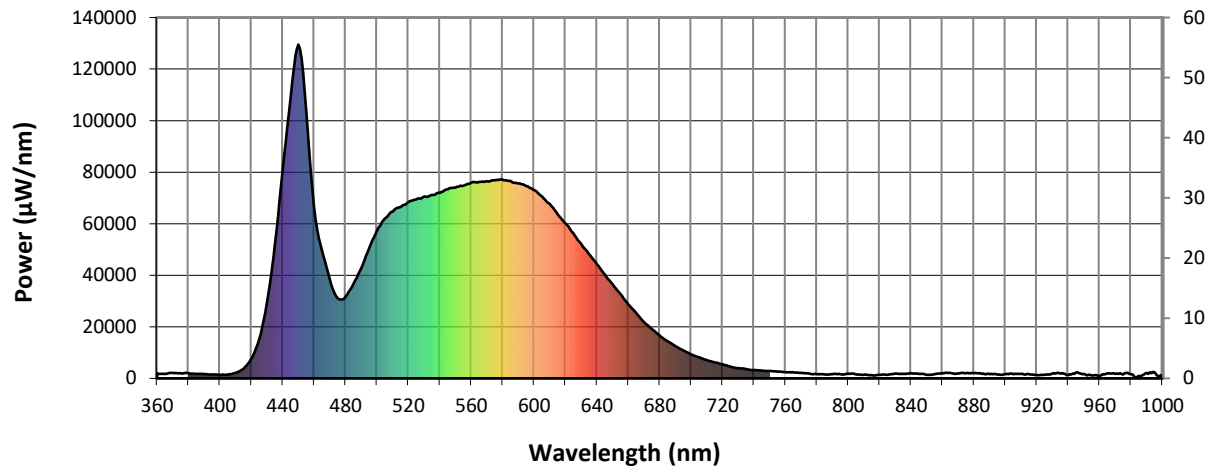
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5700K 7-step quadrangle

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Photopic Flux vs. Wavelength

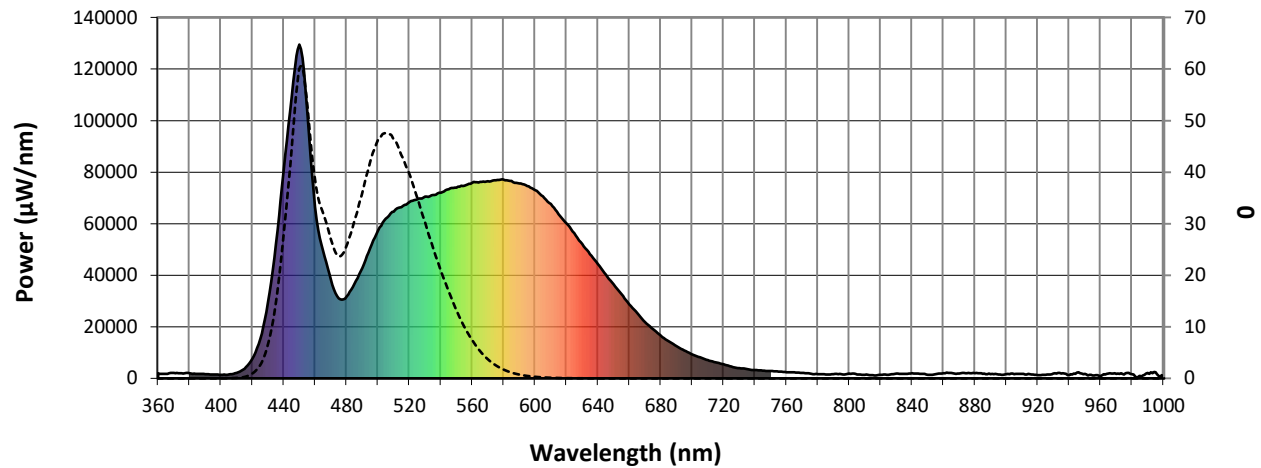


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λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	1954	0.0	490	42831	6.1	620	60042	15.6	750	2873	0.0	880	2044	0.0
365	1724	0.0	495	50448	9.1	625	56351	12.4	755	2631	0.0	885	1734	0.0
370	2062	0.0	500	57301	12.6	630	52118	9.4	760	2425	0.0	890	1667	0.0
375	2008	0.0	505	61967	17.3	635	48230	7.2	765	2317	0.0	895	1441	0.0
380	1953	0.0	510	64719	22.2	640	44375	5.3	770	2102	0.0	900	1603	0.0
385	1682	0.0	515	66397	27.5	645	40217	3.9	775	1830	0.0	905	1642	0.0
390	1649	0.0	520	68407	33.2	650	36527	2.7	780	1607	0.0	910	1741	0.0
395	1482	0.0	525	69467	37.3	655	32673	1.9	785	1521	0.0	915	1565	0.0
400	1382	0.0	530	70500	41.5	660	28715	1.2	790	1655	0.0	920	1282	0.0
405	1525	0.0	535	71117	44.1	665	25303	0.8	795	1623	0.0	925	1374	0.0
410	2147	0.0	540	71985	46.9	670	21826	0.5	800	1833	0.0	930	1841	0.0
415	3759	0.0	545	73383	48.8	675	19145	0.3	805	1530	0.0	935	1813	0.0
420	7611	0.0	550	74010	50.3	680	16611	0.2	810	1397	0.0	940	1263	0.0
425	15319	0.1	555	74748	51.1	685	14392	0.1	815	1230	0.0	945	2229	0.0
430	29510	0.2	560	75851	51.5	690	12540	0.1	820	1409	0.0	950	1745	0.0
435	52212	0.6	565	76291	50.7	695	10850	0.0	825	1376	0.0	955	1081	0.0
440	80741	1.3	570	76525	49.8	700	9348	0.0	830	1909	0.0	960	876	0.0
445	108993	2.3	575	76882	47.8	705	8139	0.0	835	1697	0.0	965	1894	0.0
450	129500	3.4	580	77077	45.8	710	7042	0.0	840	1953	0.0	970	1743	0.0
455	103230	3.5	585	76634	42.6	715	6253	0.0	845	1765	0.0	975	1544	0.0
460	66471	2.7	590	75616	39.1	720	5450	0.0	850	1313	0.0	980	1583	0.0
465	49584	2.6	595	74612	35.4	725	4567	0.0	855	1616	0.0	985	953	0.0
470	38149	2.4	600	72977	31.5	730	3952	0.0	860	2001	0.0	990	2075	0.0
475	31044	2.4	605	70597	27.3	735	3632	0.0	865	2095	0.0	995	2336	0.0
480	31747	3.0	610	67624	23.2	740	3214	0.0	870	1923	0.0	1000	595	0.0
485	36675	4.3	615	63727	19.2	745	3034	0.0	875	2037	0.0			

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Scotopic Flux vs. Wavelength



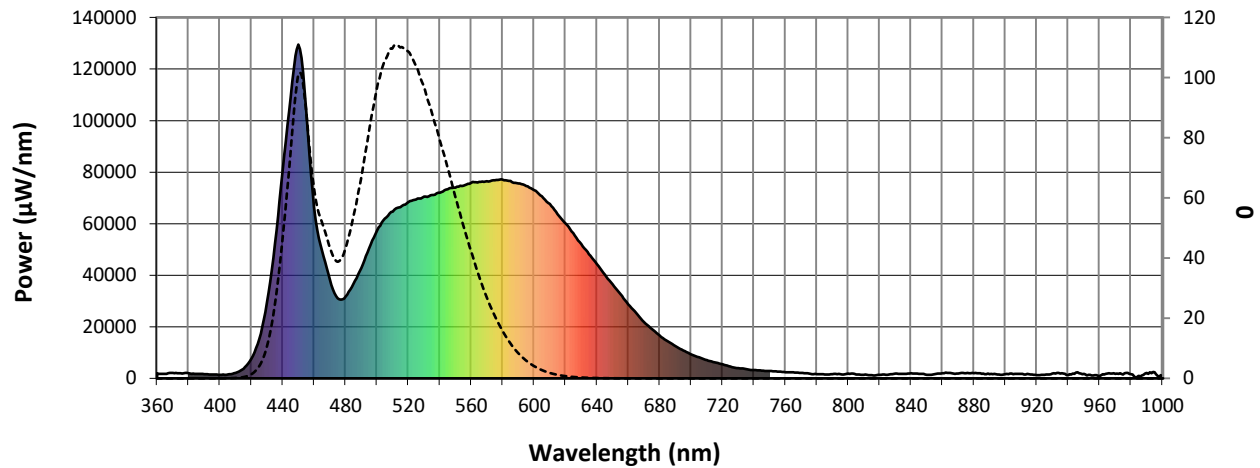
Scotopic Lumens: 4315.3

S/P: 0.86

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	1954	0.0	490	42831	66.0	620	60042	0.8	750	2873	0.0	880	2044	0.0
365	1724	0.0	495	50448	81.6	625	56351	0.5	755	2631	0.0	885	1734	0.0
370	2062	0.0	500	57301	95.8	630	52118	0.3	760	2425	0.0	890	1667	0.0
375	2008	0.0	505	61967	105.3	635	48230	0.2	765	2317	0.0	895	1441	0.0
380	1953	0.0	510	64719	109.7	640	44375	0.1	770	2102	0.0	900	1603	0.0
385	1682	0.0	515	66397	110.1	645	40217	0.1	775	1830	0.0	905	1642	0.0
390	1649	0.0	520	68407	108.7	650	36527	0.0	780	1607	0.0	910	1741	0.0
395	1482	0.0	525	69467	103.9	655	32673	0.0	785	1521	0.0	915	1565	0.0
400	1382	0.0	530	70500	97.2	660	28715	0.0	790	1655	0.0	920	1282	0.0
405	1525	0.0	535	71117	88.6	665	25303	0.0	795	1623	0.0	925	1374	0.0
410	2147	0.1	540	71985	79.5	670	21826	0.0	800	1833	0.0	930	1841	0.0
415	3759	0.4	545	73383	70.4	675	19145	0.0	805	1530	0.0	935	1813	0.0
420	7611	1.3	550	74010	60.5	680	16611	0.0	810	1397	0.0	940	1263	0.0
425	15319	3.7	555	74748	51.1	685	14392	0.0	815	1230	0.0	945	2229	0.0
430	29510	10.0	560	75851	42.4	690	12540	0.0	820	1409	0.0	950	1745	0.0
435	52212	23.3	565	76291	34.2	695	10850	0.0	825	1376	0.0	955	1081	0.0
440	80741	45.1	570	76525	27.0	700	9348	0.0	830	1909	0.0	960	876	0.0
445	108993	73.0	575	76882	20.9	705	8139	0.0	835	1697	0.0	965	1894	0.0
450	129500	100.4	580	77077	15.9	710	7042	0.0	840	1953	0.0	970	1743	0.0
455	103230	90.2	585	76634	11.7	715	6253	0.0	845	1765	0.0	975	1544	0.0
460	66471	64.2	590	75616	8.4	720	5450	0.0	850	1313	0.0	980	1583	0.0
465	49584	52.4	595	74612	5.9	725	4567	0.0	855	1616	0.0	985	953	0.0
470	38149	43.9	600	72977	4.1	730	3952	0.0	860	2001	0.0	990	2075	0.0
475	31044	38.8	605	70597	2.8	735	3632	0.0	865	2095	0.0	995	2336	0.0
480	31747	42.9	610	67624	1.8	740	3214	0.0	870	1923	0.0	1000	595	0.0
485	36675	53.2	615	63727	1.2	745	3034	0.0	875	2037	0.0			

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Melanopic Flux vs. Wavelength


Melanopic Lumens: 10248.4 S/P: 2.05

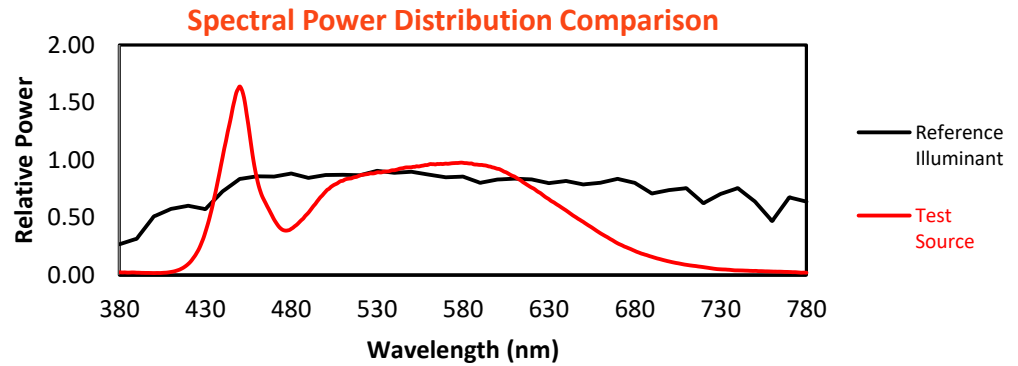
λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	1954	0.0	490	42831	35.6	620	60042	0.0	750	2873	0.0	880	2044	0.0
365	1724	0.0	495	50448	41.6	625	56351	0.0	755	2631	0.0	885	1734	0.0
370	2062	0.0	500	57301	46.1	630	52118	0.0	760	2425	0.0	890	1667	0.0
375	2008	0.0	505	61967	47.6	635	48230	0.0	765	2317	0.0	895	1441	0.0
380	1953	0.0	510	64719	46.5	640	44375	0.0	770	2102	0.0	900	1603	0.0
385	1682	0.0	515	66397	43.4	645	40217	0.0	775	1830	0.0	905	1642	0.0
390	1649	0.0	520	68407	39.8	650	36527	0.0	780	1607	0.0	910	1741	0.0
395	1482	0.0	525	69467	35.2	655	32673	0.0	785	1521	0.0	915	1565	0.0
400	1382	0.0	530	70500	30.5	660	28715	0.0	790	1655	0.0	920	1282	0.0
405	1525	0.0	535	71117	25.6	665	25303	0.0	795	1623	0.0	925	1374	0.0
410	2147	0.1	540	71985	21.1	670	21826	0.0	800	1833	0.0	930	1841	0.0
415	3759	0.2	545	73383	17.0	675	19145	0.0	805	1530	0.0	935	1813	0.0
420	7611	0.9	550	74010	13.3	680	16611	0.0	810	1397	0.0	940	1263	0.0
425	15319	2.4	555	74748	10.1	685	14392	0.0	815	1230	0.0	945	2229	0.0
430	29510	6.2	560	75851	7.5	690	12540	0.0	820	1409	0.0	950	1745	0.0
435	52212	13.9	565	76291	5.4	695	10850	0.0	825	1376	0.0	955	1081	0.0
440	80741	27.0	570	76525	3.7	700	9348	0.0	830	1909	0.0	960	876	0.0
445	108993	43.0	575	76882	2.6	705	8139	0.0	835	1697	0.0	965	1894	0.0
450	129500	59.7	580	77077	1.7	710	7042	0.0	840	1953	0.0	970	1743	0.0
455	103230	54.1	585	76634	1.1	715	6253	0.0	845	1765	0.0	975	1544	0.0
460	66471	39.2	590	75616	0.7	720	5450	0.0	850	1313	0.0	980	1583	0.0
465	49584	32.4	595	74612	0.5	725	4567	0.0	855	1616	0.0	985	953	0.0
470	38149	27.3	600	72977	0.3	730	3952	0.0	860	2001	0.0	990	2075	0.0
475	31044	23.7	605	70597	0.2	735	3632	0.0	865	2095	0.0	995	2336	0.0
480	31747	25.5	610	67624	0.1	740	3214	0.0	870	1923	0.0	1000	595	0.0
485	36675	30.2	615	63727	0.1	745	3034	0.0	875	2037	0.0			

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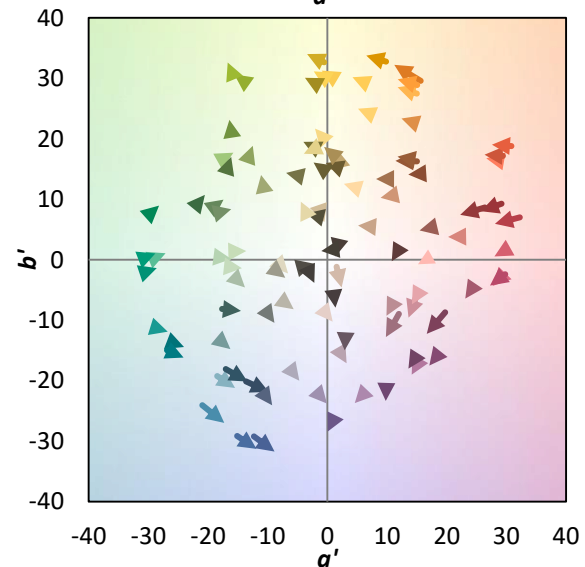
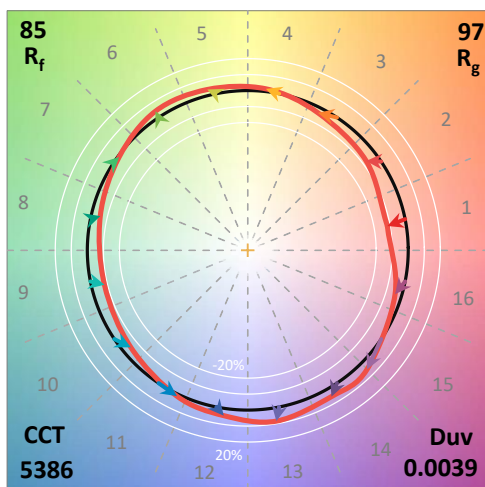
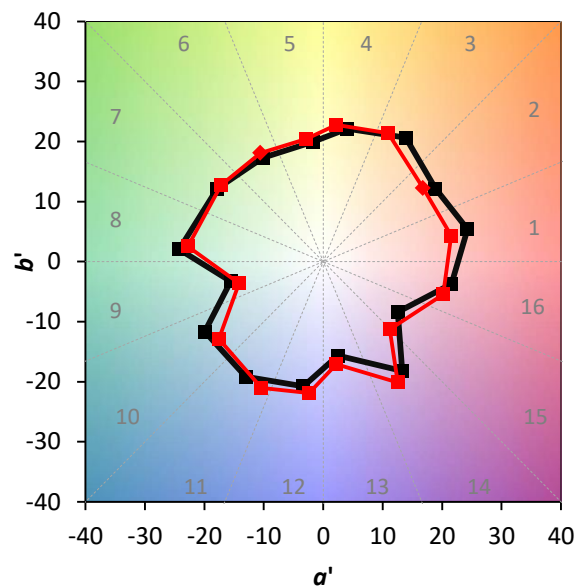
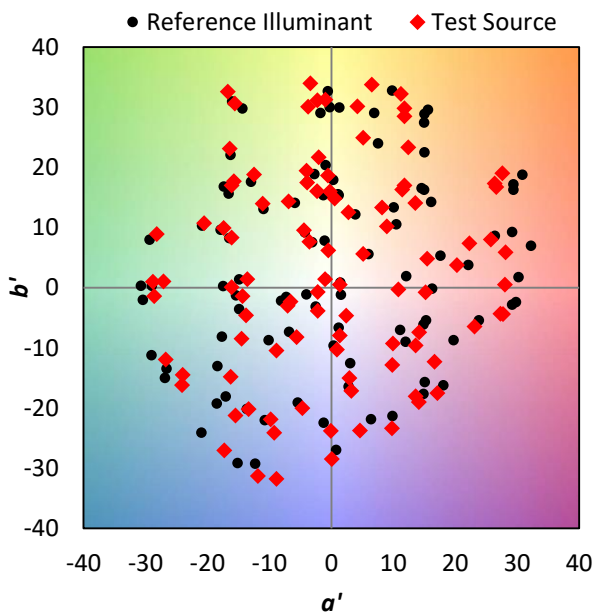
TM-30-18

Summary

$R_f = 84.9$
 $R_g = 97$
 CIE $R_a = 83.7$
 $R_9 = 10.3$

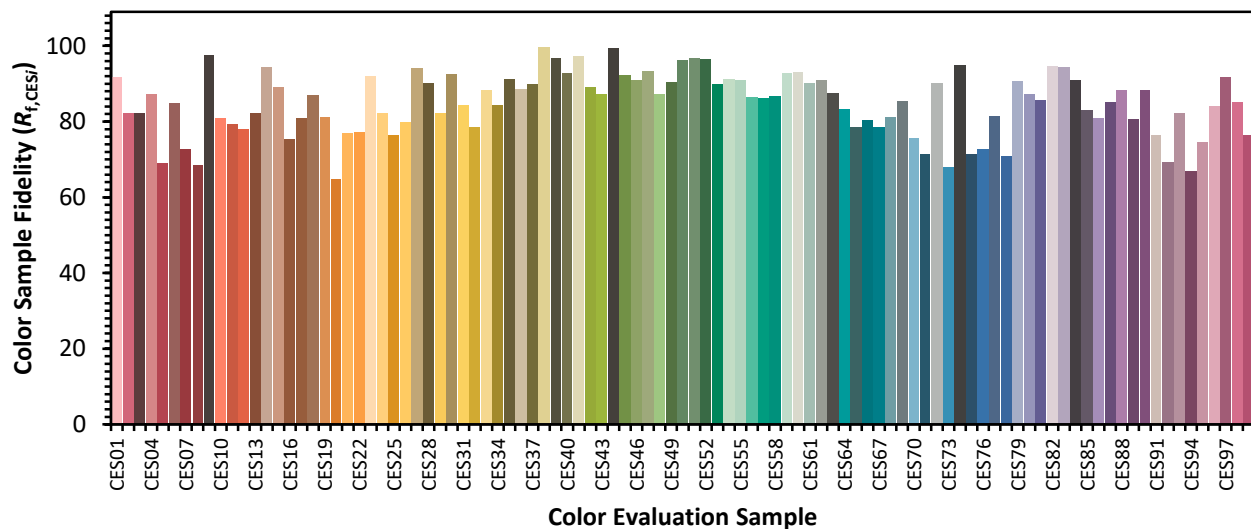


Color Vector Graphics

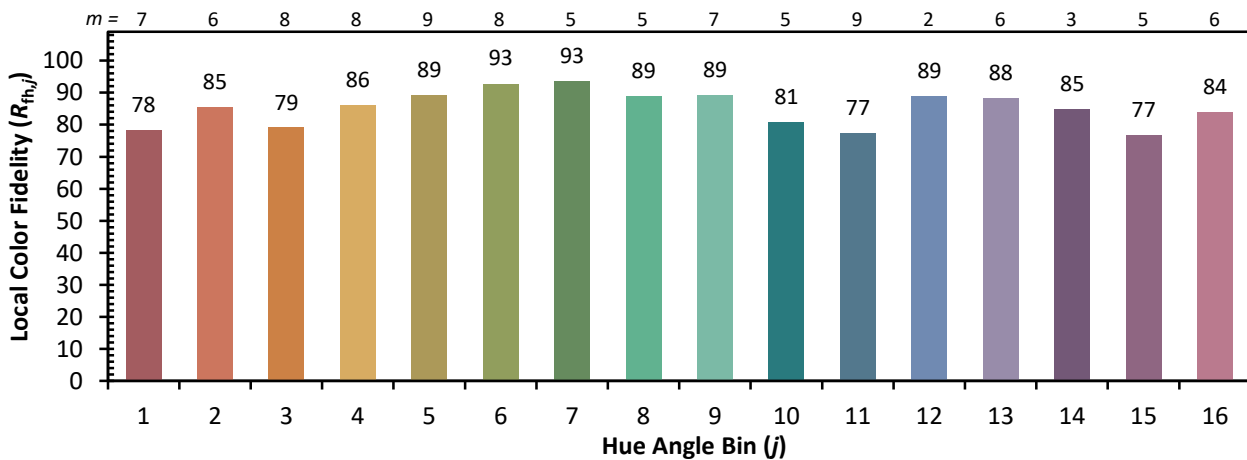
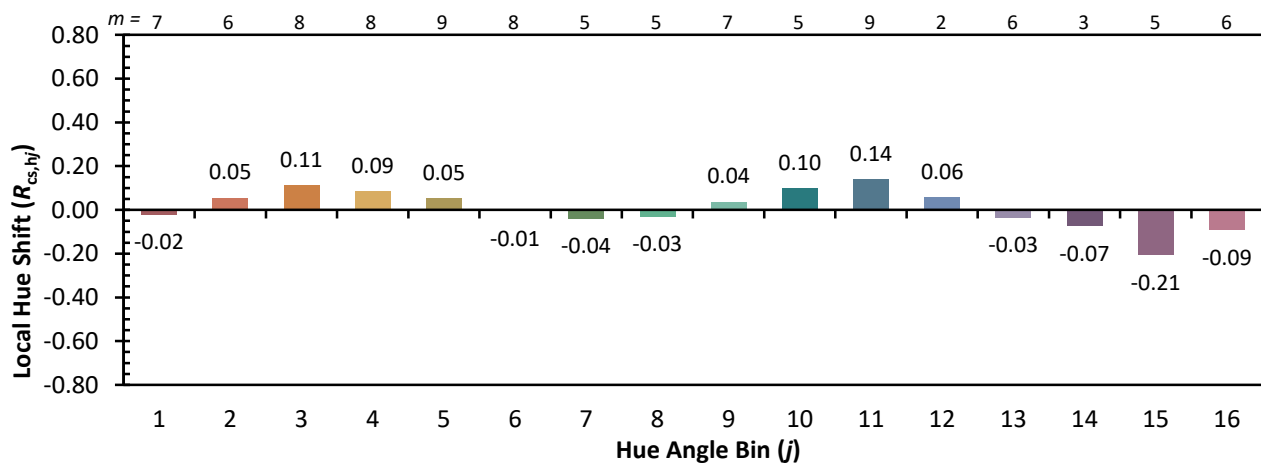
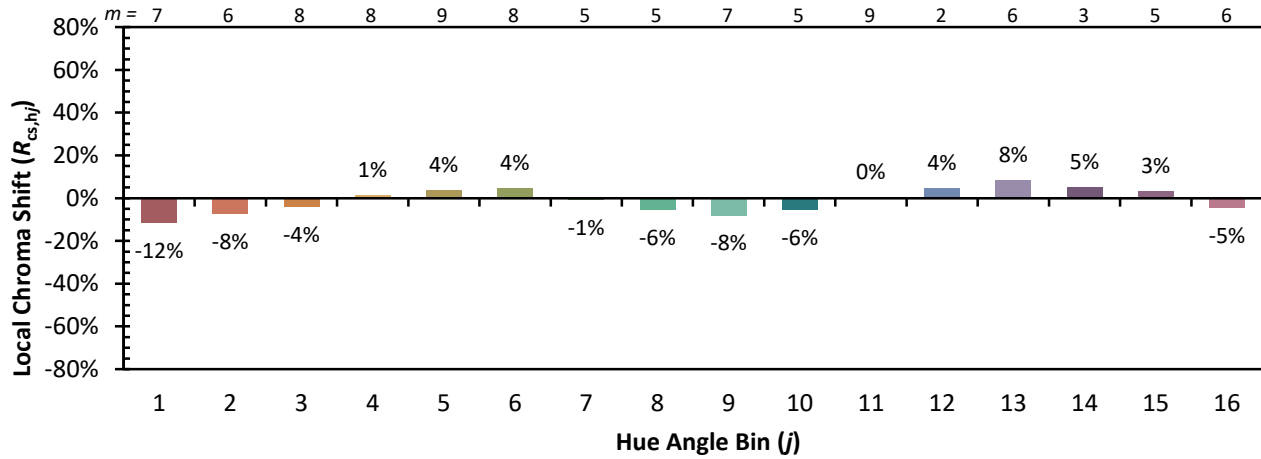


Individual Sample Fidelity Index ($R_{f,i}$)

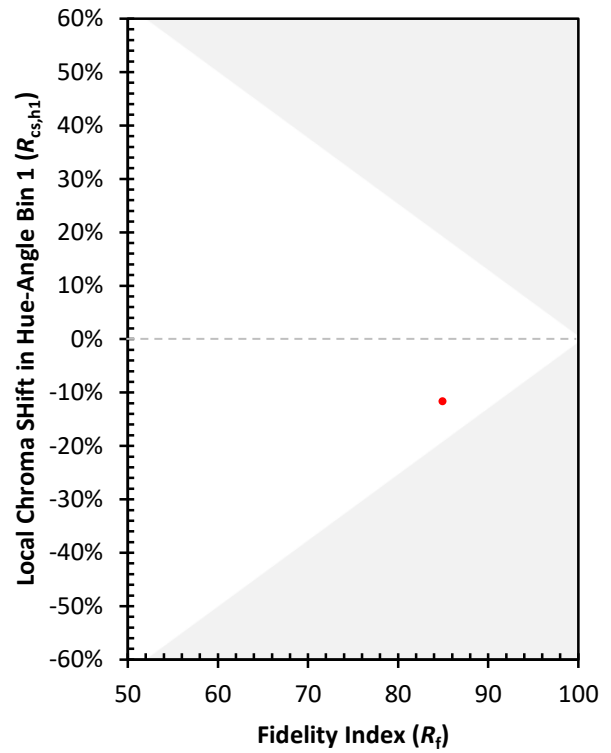
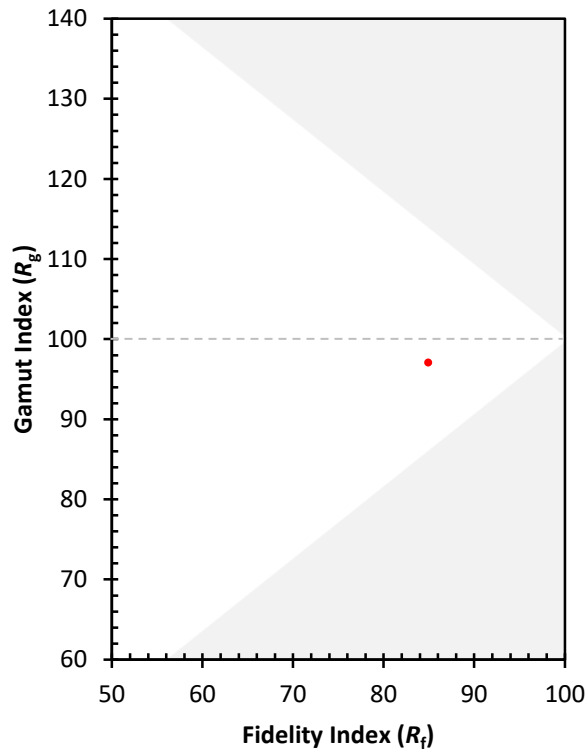
CES01 = 85	CES26 = 80	CES51 = 97	CES76 = 73
CES02 = 60	CES27 = 94	CES52 = 96	CES77 = 81
CES03 = 30	CES28 = 90	CES53 = 90	CES78 = 71
CES04 = 68	CES29 = 82	CES54 = 91	CES79 = 91
CES05 = 46	CES30 = 92	CES55 = 91	CES80 = 87
CES06 = 50	CES31 = 84	CES56 = 86	CES81 = 86
CES07 = 39	CES32 = 79	CES57 = 86	CES82 = 95
CES08 = 38	CES33 = 88	CES58 = 87	CES83 = 94
CES09 = 29	CES34 = 84	CES59 = 93	CES84 = 91
CES10 = 72	CES35 = 91	CES60 = 93	CES85 = 83
CES11 = 55	CES36 = 89	CES61 = 90	CES86 = 81
CES12 = 61	CES37 = 90	CES62 = 91	CES87 = 85
CES13 = 42	CES38 = 100	CES63 = 88	CES88 = 88
CES14 = 74	CES39 = 97	CES64 = 83	CES89 = 81
CES15 = 70	CES40 = 93	CES65 = 79	CES90 = 88
CES16 = 46	CES41 = 97	CES66 = 80	CES91 = 76
CES17 = 48	CES42 = 89	CES67 = 79	CES92 = 69
CES18 = 55	CES43 = 87	CES68 = 81	CES93 = 82
CES19 = 70	CES44 = 99	CES69 = 85	CES94 = 67
CES20 = 64	CES45 = 92	CES70 = 76	CES95 = 75
CES21 = 85	CES46 = 91	CES71 = 71	CES96 = 84
CES22 = 77	CES47 = 93	CES72 = 90	CES97 = 92
CES23 = 91	CES48 = 87	CES73 = 68	CES98 = 85
CES24 = 90	CES49 = 90	CES74 = 95	CES99 = 76
CES25 = 70	CES50 = 96	CES75 = 71	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)