

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: P472199

Luminaire Tested: **CCP-VA-5-840-U-T4W**

Issue Date: 01/27/2021



Test Information

Test Method: LM-79-08
Report Number: P472199
Test Lab: INNOVATION CENTER(G3)
Issue Date: 01/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCP-VA-5-840-U-T4W
Description: INVUE CLEARCURVE POLE MOUNT Wave Stream LUMINAIRE WITH T4W
DISTRIBUTION LENS
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7614.4 lumens
Efficiency: N/A
Efficacy: 102.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.54' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G3

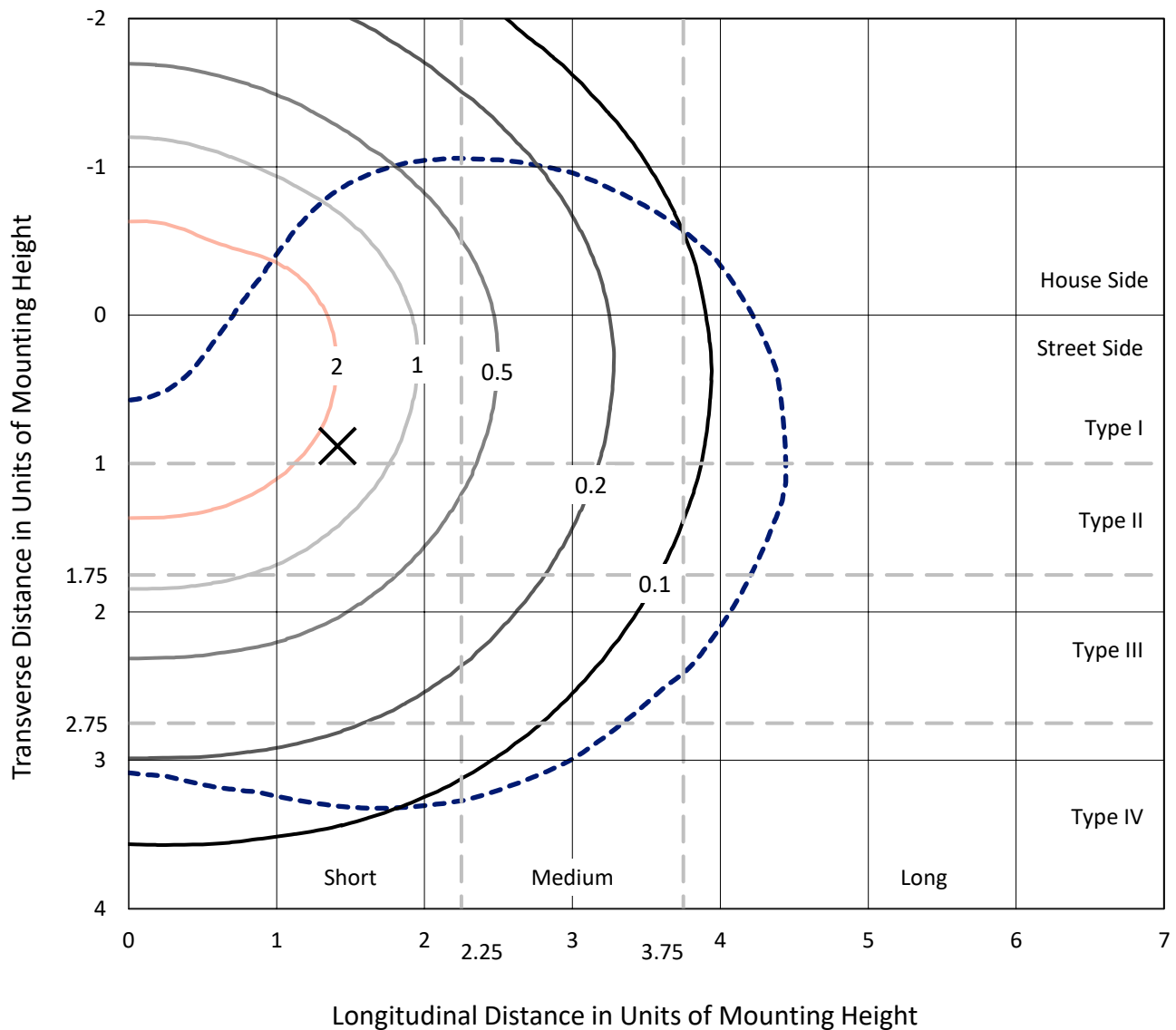
Input Watts (W): 74.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Iso-Footcandle Lines of Horizontal Illumination

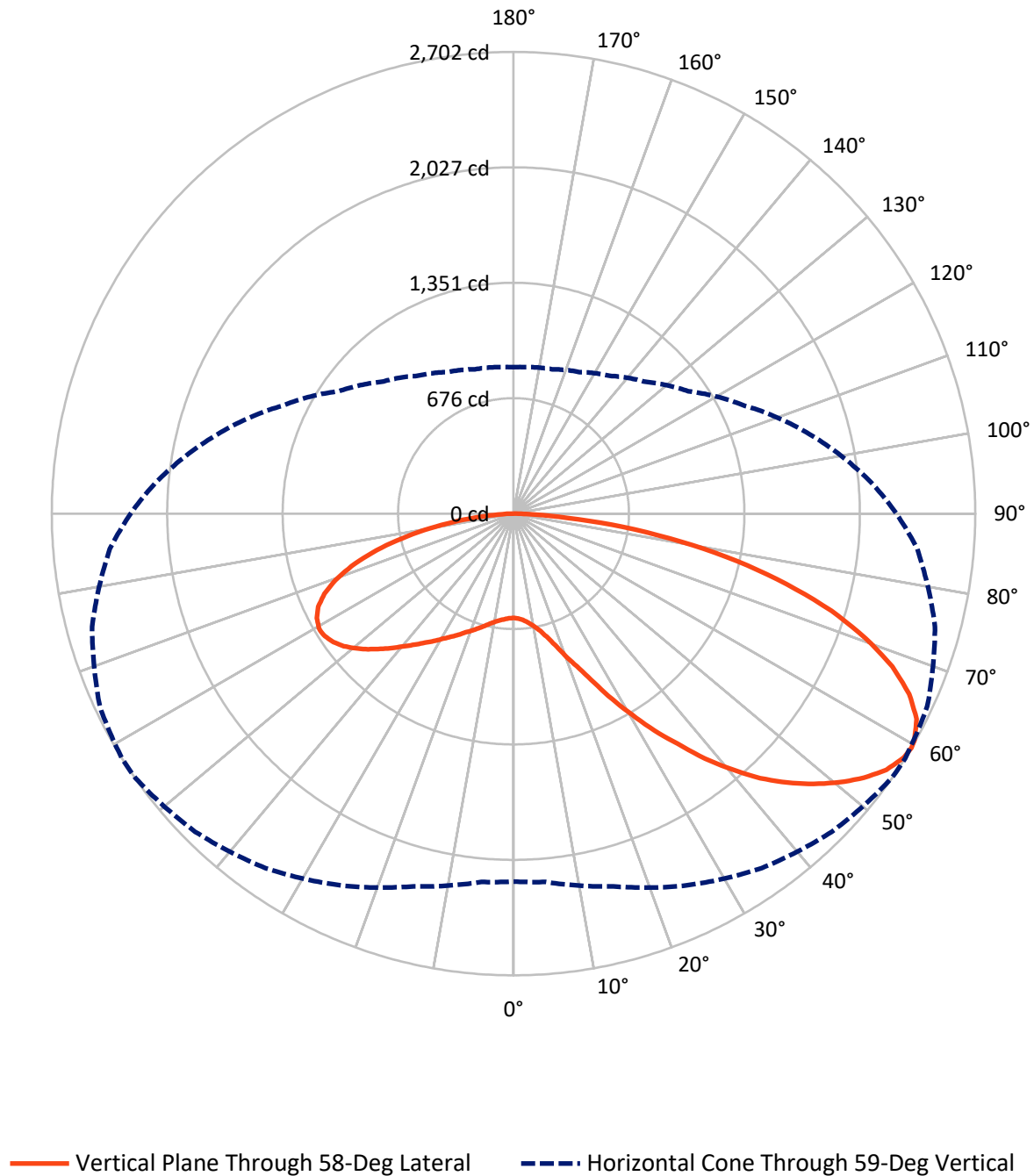
× Max cd
- - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 4.1 fc
Type IV - Short - N/A

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Luminous Intensity Polar Plot



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CATALOG NUMBER: CCP-VA-5-840-U-T4W

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2715.6	0.0	2715.6
	% Fixture	35.7	0.0	35.7
Street Side	Lumens	4898.8	0.0	4898.8
	% Fixture	64.3	0.0	64.3
Total	Lumens	7614.4	0.0	7614.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.6	0.8
10°-20°	206.5	2.7
20°-30°	435.9	5.7
30°-40°	802.3	10.5
40°-50°	1250.5	16.4
50°-60°	1643.2	21.6
60°-70°	1721.8	22.6
70°-80°	1193.8	15.7
80°-90°	299.8	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°	7614.4	100.0
0°-180°	7614.4	100.0

Coefficient of Utilization



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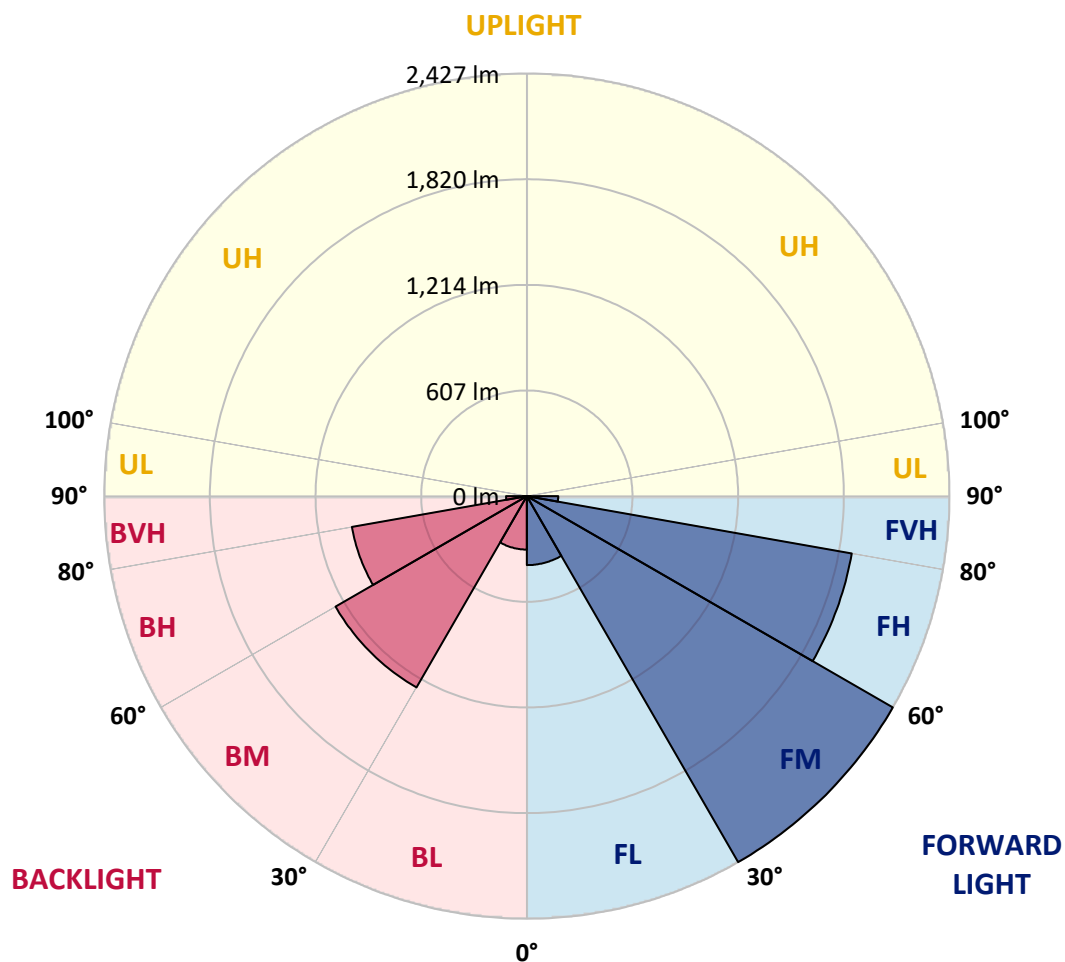
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	396.1	5.2			
FM	(30°-60°)	2427.3	31.9			
FH	(60°-80°)	1895.2	24.9			G2/5000
FVH	(80°-90°)	180.1	2.4			G2/225
BL	(0°-30°)	306.9	4.0	B1/500		
BM	(30°-60°)	1268.7	16.7	B2/2500		
BH	(60°-80°)	1020.3	13.4	B3/2500		G3/2500
BVH	(80°-90°)	119.6	1.6			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4
2.5°	619.0	619.0	619.0	617.3	617.3	617.3	615.6	615.6	615.6	613.8	612.1
5°	632.7	632.7	631.0	632.7	631.0	629.3	627.6	627.6	627.6	625.8	624.1
7.5°	651.6	653.3	651.6	653.3	651.6	649.8	646.4	646.4	644.7	641.3	637.8
10°	680.7	680.7	680.7	679.0	677.3	675.6	673.9	672.1	670.4	665.3	660.1
12.5°	716.7	716.7	716.7	713.3	713.3	709.9	708.1	706.4	703.0	696.1	689.3
15°	761.3	759.6	764.7	764.7	763.0	763.0	757.9	754.4	751.0	740.7	725.3
17.5°	821.3	819.6	824.7	828.2	828.2	829.9	821.3	817.9	805.9	792.2	771.6
20°	901.9	898.5	903.6	907.0	903.6	907.0	898.5	900.2	883.0	859.0	826.5
22.5°	989.3	989.3	994.5	994.5	996.2	999.6	989.3	984.2	970.5	936.2	895.0
25°	1097.4	1105.9	1105.9	1105.9	1112.8	1114.5	1104.2	1095.7	1076.8	1030.5	973.9
27.5°	1229.4	1227.7	1226.0	1236.3	1236.3	1239.7	1232.8	1229.4	1207.1	1150.5	1064.8
30°	1370.0	1359.7	1366.6	1370.0	1376.9	1382.0	1375.1	1364.8	1337.4	1275.7	1169.4
32.5°	1498.6	1505.5	1515.7	1519.2	1529.5	1531.2	1514.0	1514.0	1486.6	1407.7	1298.0
35°	1644.3	1644.3	1671.8	1683.8	1683.8	1694.1	1668.3	1654.6	1635.8	1553.5	1414.6
37.5°	1771.2	1774.6	1796.9	1824.4	1827.8	1843.2	1824.4	1819.2	1784.9	1700.9	1546.6
40°	1889.5	1893.0	1920.4	1953.0	1971.8	1995.8	1977.0	1968.4	1932.4	1836.4	1678.6
42.5°	1982.1	1989.0	2023.3	2071.3	2102.1	2131.3	2122.7	2117.6	2067.9	1966.7	1800.4
45°	2052.4	2064.4	2112.4	2169.0	2211.9	2254.7	2256.5	2246.2	2199.9	2086.7	1918.7
47.5°	2109.0	2122.7	2175.9	2247.9	2313.0	2366.2	2376.5	2364.5	2321.6	2203.3	2025.0
50°	2155.3	2162.2	2222.2	2314.8	2395.3	2462.2	2482.8	2472.5	2434.8	2301.0	2117.6
52.5°	2179.3	2189.6	2258.2	2364.5	2462.2	2542.8	2573.7	2568.5	2523.9	2390.2	2199.9
55°	2191.3	2201.6	2282.2	2403.9	2513.7	2608.0	2645.7	2647.4	2604.5	2470.8	2277.0
57.5°	2177.6	2191.3	2278.8	2414.2	2535.9	2637.1	2695.4	2693.7	2659.4	2532.5	2342.2
59°	2153.6	2163.9	2258.2	2400.5	2532.5	2633.7	2700.6	2702.3	2671.4	2553.1	2371.3
60°	2126.1	2138.2	2234.2	2383.3	2518.8	2621.7	2692.0	2695.4	2669.7	2558.2	2383.3
62.5°	2031.8	2047.3	2153.6	2313.0	2460.5	2558.2	2642.3	2647.4	2633.7	2544.5	2391.9
65°	1899.8	1913.5	2028.4	2198.2	2352.5	2453.6	2532.5	2544.5	2542.8	2482.8	2357.6
67.5°	1738.6	1740.4	1848.4	2033.6	2194.7	2294.2	2369.6	2390.2	2405.6	2366.2	2256.5
70°	1544.9	1543.2	1647.8	1831.2	1992.4	2097.0	2172.4	2186.2	2225.6	2194.7	2105.6
72.5°	1304.8	1325.4	1423.1	1577.5	1736.9	1853.5	1920.4	1946.1	1968.4	1975.3	1901.5
75°	1078.5	1100.8	1178.0	1322.0	1459.2	1567.2	1639.2	1651.2	1692.3	1702.6	1634.0
77.5°	862.5	864.2	920.8	1035.6	1160.8	1250.0	1308.3	1339.1	1361.4	1382.0	1310.0
80°	605.3	613.8	653.3	735.6	833.3	927.6	975.6	996.2	1011.6	1025.4	1001.3
82.5°	378.9	382.4	408.1	457.8	524.7	577.8	627.6	644.7	648.1	679.0	675.6
85°	180.0	181.8	198.9	222.9	252.1	294.9	313.8	313.8	337.8	360.1	360.1
87.5°	24.0	24.0	29.1	32.6	41.2	53.2	73.7	75.4	89.2	99.4	108.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REPORT NUMBER: P472199

CATALOG NUMBER: CCP-VA-5-840-U-T4W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4	610.4
2.5°	612.1	612.1	612.1	612.1	612.1	610.4	612.1	612.1	612.1	612.1	612.1
5°	624.1	622.4	620.7	619.0	619.0	617.3	617.3	617.3	617.3	617.3	617.3
7.5°	636.1	634.4	632.7	629.3	627.6	625.8	625.8	624.1	624.1	624.1	624.1
10°	656.7	655.0	648.1	643.0	639.6	637.8	636.1	634.4	632.7	632.7	632.7
12.5°	684.1	680.7	668.7	661.8	656.7	653.3	649.8	648.1	646.4	644.7	644.7
15°	718.4	709.9	694.4	684.1	677.3	672.1	667.0	663.6	661.8	660.1	660.1
17.5°	759.6	749.3	728.7	709.9	697.9	689.3	682.4	677.3	675.6	675.6	675.6
20°	811.0	793.9	764.7	739.0	720.1	708.1	697.9	692.7	691.0	689.3	687.6
22.5°	871.0	848.7	805.9	766.4	742.4	725.3	713.3	706.4	701.3	699.6	699.6
25°	939.6	907.0	850.5	802.4	769.9	745.9	730.4	721.9	713.3	709.9	709.9
27.5°	1021.9	979.1	903.6	840.2	795.6	766.4	749.3	737.3	728.7	721.9	718.4
30°	1111.1	1063.1	961.9	881.3	824.7	792.2	771.6	757.9	745.9	733.9	732.1
32.5°	1224.2	1155.7	1032.2	927.6	859.0	817.9	793.9	776.7	761.3	749.3	745.9
35°	1339.1	1256.8	1105.9	975.6	891.6	841.9	812.7	793.9	778.4	764.7	763.0
37.5°	1457.4	1370.0	1186.5	1032.2	929.3	869.3	833.3	812.7	793.9	780.2	778.4
40°	1580.9	1478.0	1268.8	1090.5	968.8	896.8	855.6	829.9	809.3	797.3	795.6
42.5°	1697.5	1586.0	1358.0	1159.1	1015.1	925.9	877.9	850.5	824.7	812.7	811.0
45°	1808.9	1688.9	1447.2	1222.5	1061.4	956.8	900.2	867.6	840.2	828.2	826.5
47.5°	1910.1	1790.1	1529.5	1291.1	1109.4	991.1	924.2	884.8	853.9	841.9	841.9
50°	2001.0	1875.8	1610.0	1354.6	1153.9	1025.4	944.8	900.2	869.3	857.3	855.6
52.5°	2086.7	1951.3	1680.3	1409.4	1196.8	1056.2	965.3	912.2	879.6	865.9	864.2
55°	2155.3	2019.8	1738.6	1454.0	1226.0	1076.8	979.1	919.0	883.0	871.0	869.3
57.5°	2215.3	2076.4	1779.8	1484.9	1244.8	1088.8	985.9	919.0	881.3	867.6	865.9
59°	2241.0	2100.4	1793.5	1493.4	1248.3	1090.5	984.2	913.9	874.5	860.7	857.3
60°	2254.7	2110.7	1798.7	1495.2	1246.5	1087.1	982.5	908.8	867.6	852.2	852.2
62.5°	2268.5	2119.3	1791.8	1481.4	1227.7	1068.2	965.3	888.2	841.9	824.7	824.7
65°	2239.3	2088.4	1752.4	1443.7	1190.0	1035.6	932.8	853.9	802.4	785.3	785.3
67.5°	2153.6	2013.0	1680.3	1373.4	1128.2	979.1	879.6	799.0	751.0	732.1	727.0
70°	2007.8	1889.5	1567.2	1272.3	1044.2	907.0	812.7	735.6	685.9	667.0	660.1
72.5°	1812.4	1695.8	1416.3	1148.8	932.8	812.7	730.4	656.7	601.8	583.0	584.7
75°	1543.2	1460.9	1220.8	992.8	804.2	692.7	624.1	562.4	516.1	500.7	502.4
77.5°	1251.7	1183.1	989.3	809.3	656.7	571.0	512.7	463.0	432.1	423.5	418.4
80°	958.5	891.6	742.4	603.6	499.0	438.9	399.5	365.2	341.2	329.2	332.6
82.5°	643.0	601.8	492.1	399.5	339.5	296.6	282.9	260.6	252.1	245.2	250.3
85°	346.4	310.3	257.2	214.3	186.9	174.9	178.3	176.6	169.7	168.0	173.2
87.5°	113.2	97.7	75.4	63.4	65.2	58.3	58.3	54.9	49.7	48.0	51.4
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: SP1-2009-972-1-R2

Luminaire Tested: CCW-VA4-840-U-T4W

Test Date: 11/10/2020

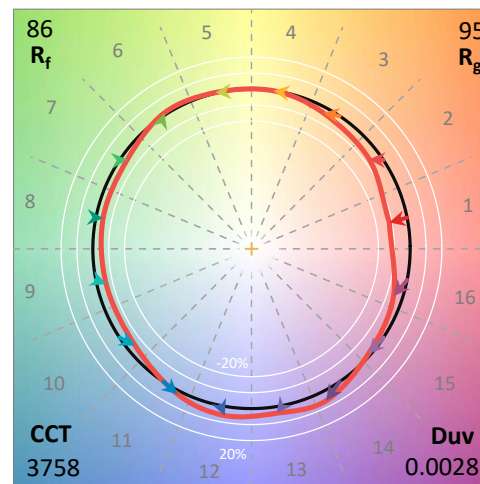
Test Information

Test Method: LM-79-08
 Report Number: SP1-2009-972-1-R2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 11/10/2020
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: INVUE
 Catalog Number: **CCW-VA4-840-U-T4W**
 Description: INVUE WALL PACK WAVEGUIDE VERSION

THIS IS A REVISION OF SP1-2009-972-1. TO UPDATE THE CATALOG INFORMATION.TESTED
 IN SITU. INVUE WALL PACK WAVEGUIDE 6000LM 120V T4W (4 LED BOARDS)

Spectral Parameters

CCT (K):	3758	CRI (Ra):	83.7		
CIE u':	0.2283	R1:	81.4	R9:	8.1
CIE v':	0.5097	R2:	89.8	R10:	77.1
Duv:	0.0028	R3:	96.8	R11:	82.8
CIE x:	0.3941	R4:	83.0	R12:	68.3
CIE y:	0.3910	R5:	82.1	R13:	83.4
CIE z:	0.2150	R6:	87.1	R14:	98.5
Peak Wavelength (nm):	598	R7:	86.1		
Dominant Wavelength (nm):	578	R8:	63.6		
Purity:	35.8				
Rf:	86.1				
Rg:	95.3				



Test Conditions

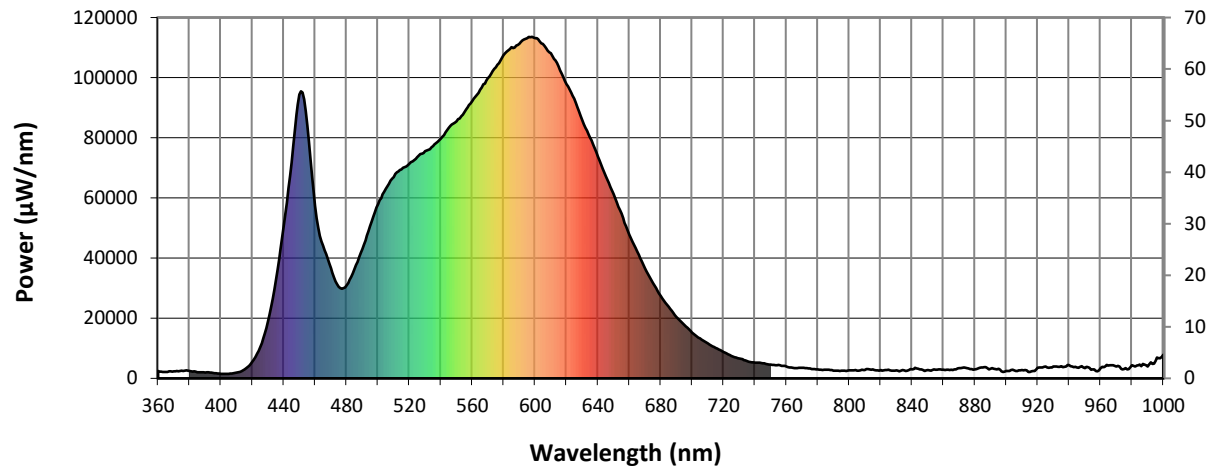
Stabilization Time: 134M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.9/45%
 Sphere Temperature (°C): 24.5

REPORT NUMBER: SP1-2009-972-1-R2

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: SP1-2009-972-1-R2

Photopic Flux vs. Wavelength

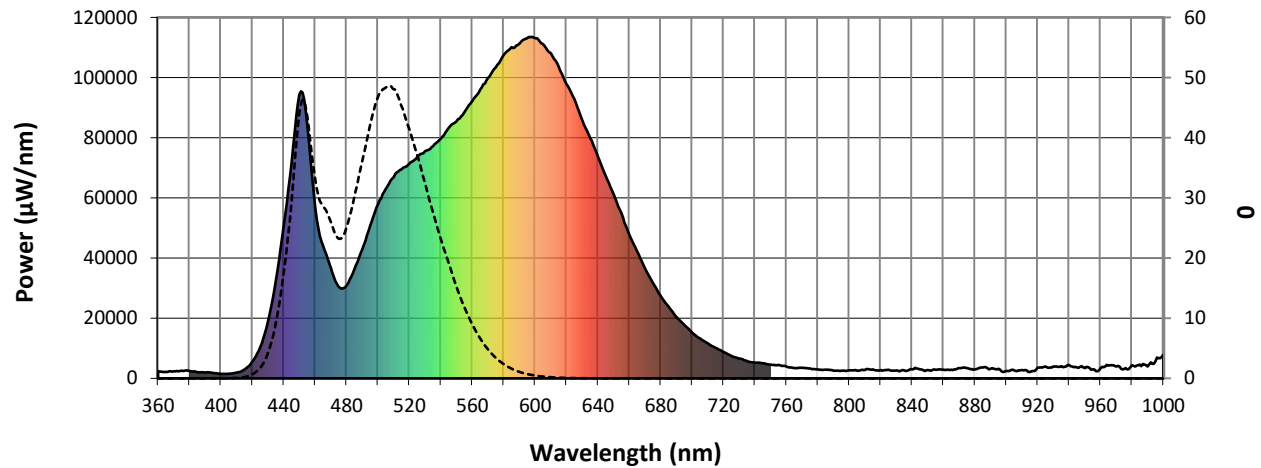


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λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	2470	0.0	490	43022	6.1	620	97795	25.4	750	4583	0.0	880	2980	0.0
365	2119	0.0	495	50645	9.2	625	92963	20.5	755	4424	0.0	885	3638	0.0
370	2296	0.0	500	57941	12.8	630	85922	15.6	760	3924	0.0	890	3210	0.0
375	2538	0.0	505	62961	17.6	635	80139	12.0	765	3412	0.0	895	3195	0.0
380	2460	0.0	510	66978	23.0	640	73764	8.8	770	3550	0.0	900	2403	0.0
385	2060	0.0	515	69458	28.8	645	67130	6.5	775	3301	0.0	905	2672	0.0
390	1910	0.0	520	71406	34.6	650	61251	4.5	780	2938	0.0	910	2746	0.0
395	1833	0.0	525	73554	39.5	655	54757	3.1	785	2901	0.0	915	2093	0.0
400	1499	0.0	530	75559	44.5	660	47806	2.0	790	2596	0.0	920	3502	0.0
405	1535	0.0	535	77242	47.9	665	42159	1.3	795	2512	0.0	925	3893	0.0
410	1918	0.0	540	79724	51.9	670	36632	0.8	800	2612	0.0	930	3909	0.0
415	2937	0.0	545	83331	55.5	675	31705	0.5	805	2583	0.0	935	4024	0.0
420	5537	0.0	550	85438	58.1	680	27443	0.3	810	2787	0.0	940	4351	0.0
425	10459	0.1	555	88580	60.5	685	23866	0.2	815	2970	0.0	945	3575	0.0
430	18944	0.2	560	92201	62.7	690	20482	0.1	820	2759	0.0	950	3451	0.0
435	32809	0.4	565	95983	63.8	695	17805	0.1	825	2924	0.0	955	2965	0.0
440	50593	0.8	570	99840	64.9	700	15274	0.0	830	2665	0.0	960	3360	0.0
445	71865	1.5	575	103421	64.4	705	13257	0.0	835	2711	0.0	965	4213	0.0
450	94356	2.4	580	107508	63.9	710	11582	0.0	840	2995	0.0	970	3908	0.0
455	84106	2.8	585	110098	61.2	715	10160	0.0	845	3015	0.0	975	3041	0.0
460	57367	2.4	590	111337	57.6	720	8764	0.0	850	2730	0.0	980	4418	0.0
465	44149	2.3	595	113111	53.6	725	7477	0.0	855	2854	0.0	985	4563	0.0
470	36600	2.3	600	113155	48.8	730	6579	0.0	860	2845	0.0	990	3924	0.0
475	30491	2.4	605	111204	43.1	735	5754	0.0	865	2927	0.0	995	5812	0.0
480	30970	2.9	610	108150	37.2	740	5243	0.0	870	3427	0.0	1000	7877	0.0
485	36255	4.3	615	103709	31.3	745	5025	0.0	875	3419	0.0			

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Scotopic Flux vs. Wavelength



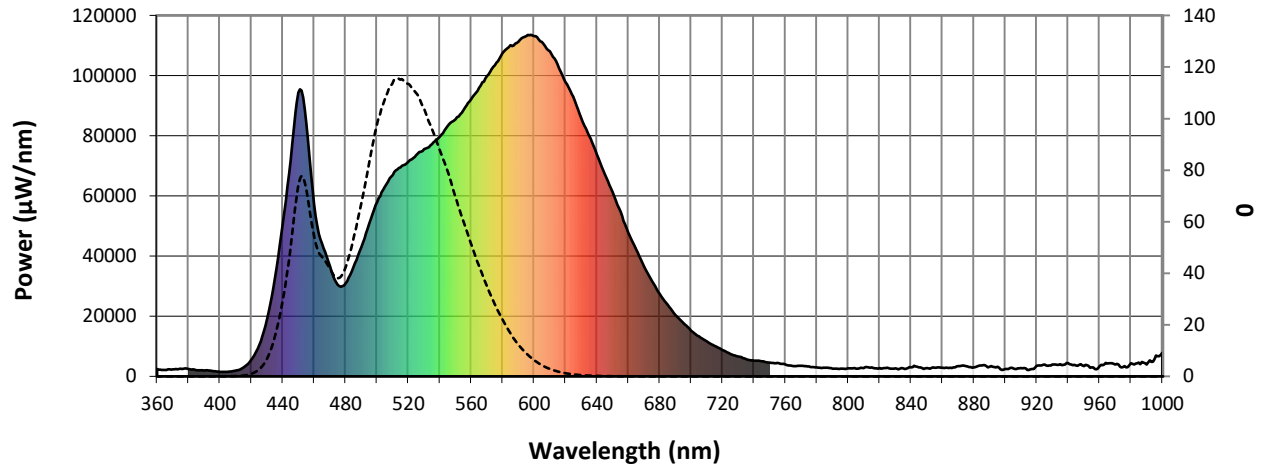
Scotopic Lumens: 4107.8

S/P: 0.65

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	2470	0.0	490	43022	66.2	620	97795	1.2	750	4583	0.0	880	2980	0.0
365	2119	0.0	495	50645	81.9	625	92963	0.8	755	4424	0.0	885	3638	0.0
370	2296	0.0	500	57941	96.9	630	85922	0.5	760	3924	0.0	890	3210	0.0
375	2538	0.0	505	62961	107.0	635	80139	0.3	765	3412	0.0	895	3195	0.0
380	2460	0.0	510	66978	113.5	640	73764	0.2	770	3550	0.0	900	2403	0.0
385	2060	0.0	515	69458	115.1	645	67130	0.1	775	3301	0.0	905	2672	0.0
390	1910	0.0	520	71406	113.5	650	61251	0.1	780	2938	0.0	910	2746	0.0
395	1833	0.0	525	73554	110.0	655	54757	0.0	785	2901	0.0	915	2093	0.0
400	1499	0.0	530	75559	104.2	660	47806	0.0	790	2596	0.0	920	3502	0.0
405	1535	0.0	535	77242	96.3	665	42159	0.0	795	2512	0.0	925	3893	0.0
410	1918	0.1	540	79724	88.1	670	36632	0.0	800	2612	0.0	930	3909	0.0
415	2937	0.3	545	83331	79.9	675	31705	0.0	805	2583	0.0	935	4024	0.0
420	5537	0.9	550	85438	69.9	680	27443	0.0	810	2787	0.0	940	4351	0.0
425	10459	2.6	555	88580	60.5	685	23866	0.0	815	2970	0.0	945	3575	0.0
430	18944	6.4	560	92201	51.5	690	20482	0.0	820	2759	0.0	950	3451	0.0
435	32809	14.7	565	95983	43.1	695	17805	0.0	825	2924	0.0	955	2965	0.0
440	50593	28.3	570	99840	35.2	700	15274	0.0	830	2665	0.0	960	3360	0.0
445	71865	48.1	575	103421	28.2	705	13257	0.0	835	2711	0.0	965	4213	0.0
450	94356	73.1	580	107508	22.2	710	11582	0.0	840	2995	0.0	970	3908	0.0
455	84106	73.5	585	110098	16.8	715	10160	0.0	845	3015	0.0	975	3041	0.0
460	57367	55.4	590	111337	12.4	720	8764	0.0	850	2730	0.0	980	4418	0.0
465	44149	46.6	595	113111	9.0	725	7477	0.0	855	2854	0.0	985	4563	0.0
470	36600	42.1	600	113155	6.4	730	6579	0.0	860	2845	0.0	990	3924	0.0
475	30491	38.1	605	111204	4.4	735	5754	0.0	865	2927	0.0	995	5812	0.0
480	30970	41.8	610	108150	2.9	740	5243	0.0	870	3427	0.0	1000	7877	0.0
485	36255	52.6	615	103709	1.9	745	5025	0.0	875	3419	0.0			

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Melanopic Flux vs. Wavelength


Melanopic Lumens: 10325.3 S/P: 1.63

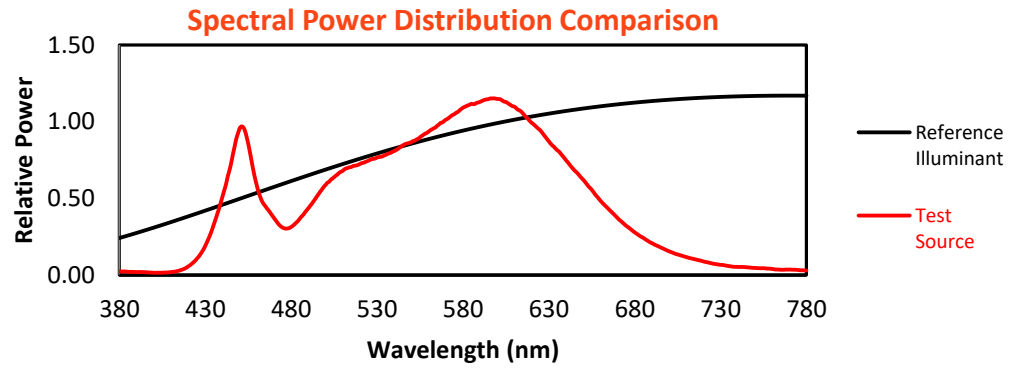
λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)	λ (nm)	Power (μW/nm)	Lumens (Φ/nm)
360	2470	0.0	490	43022	35.8	620	97795	0.1	750	4583	0.0	880	2980	0.0
365	2119	0.0	495	50645	41.8	625	92963	0.0	755	4424	0.0	885	3638	0.0
370	2296	0.0	500	57941	46.6	630	85922	0.0	760	3924	0.0	890	3210	0.0
375	2538	0.0	505	62961	48.3	635	80139	0.0	765	3412	0.0	895	3195	0.0
380	2460	0.0	510	66978	48.1	640	73764	0.0	770	3550	0.0	900	2403	0.0
385	2060	0.0	515	69458	45.4	645	67130	0.0	775	3301	0.0	905	2672	0.0
390	1910	0.0	520	71406	41.6	650	61251	0.0	780	2938	0.0	910	2746	0.0
395	1833	0.0	525	73554	37.3	655	54757	0.0	785	2901	0.0	915	2093	0.0
400	1499	0.0	530	75559	32.7	660	47806	0.0	790	2596	0.0	920	3502	0.0
405	1535	0.0	535	77242	27.8	665	42159	0.0	795	2512	0.0	925	3893	0.0
410	1918	0.1	540	79724	23.3	670	36632	0.0	800	2612	0.0	930	3909	0.0
415	2937	0.2	545	83331	19.4	675	31705	0.0	805	2583	0.0	935	4024	0.0
420	5537	0.6	550	85438	15.3	680	27443	0.0	810	2787	0.0	940	4351	0.0
425	10459	1.6	555	88580	11.9	685	23866	0.0	815	2970	0.0	945	3575	0.0
430	18944	4.0	560	92201	9.1	690	20482	0.0	820	2759	0.0	950	3451	0.0
435	32809	8.8	565	95983	6.7	695	17805	0.0	825	2924	0.0	955	2965	0.0
440	50593	16.9	570	99840	4.9	700	15274	0.0	830	2665	0.0	960	3360	0.0
445	71865	28.3	575	103421	3.4	705	13257	0.0	835	2711	0.0	965	4213	0.0
450	94356	43.5	580	107508	2.4	710	11582	0.0	840	2995	0.0	970	3908	0.0
455	84106	44.1	585	110098	1.6	715	10160	0.0	845	3015	0.0	975	3041	0.0
460	57367	33.8	590	111337	1.1	720	8764	0.0	850	2730	0.0	980	4418	0.0
465	44149	28.8	595	113111	0.7	725	7477	0.0	855	2854	0.0	985	4563	0.0
470	36600	26.2	600	113155	0.5	730	6579	0.0	860	2845	0.0	990	3924	0.0
475	30491	23.3	605	111204	0.3	735	5754	0.0	865	2927	0.0	995	5812	0.0
480	30970	24.9	610	108150	0.2	740	5243	0.0	870	3427	0.0	1000	7877	0.0
485	36255	29.9	615	103709	0.1	745	5025	0.0	875	3419	0.0			

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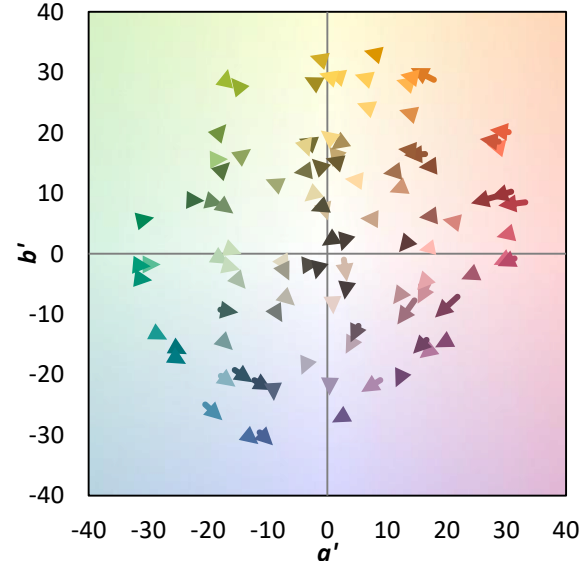
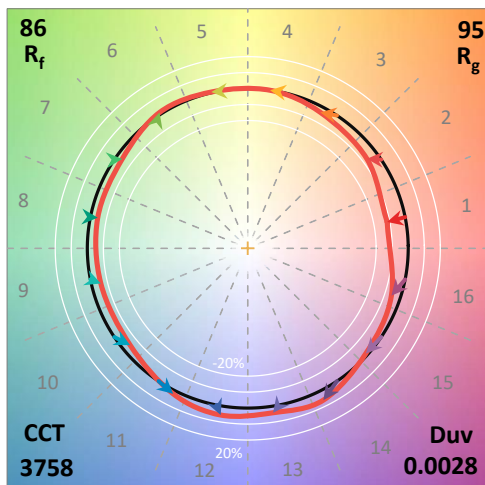
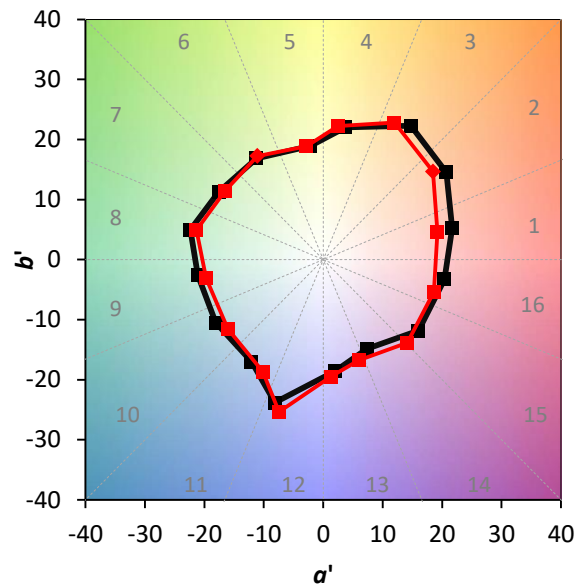
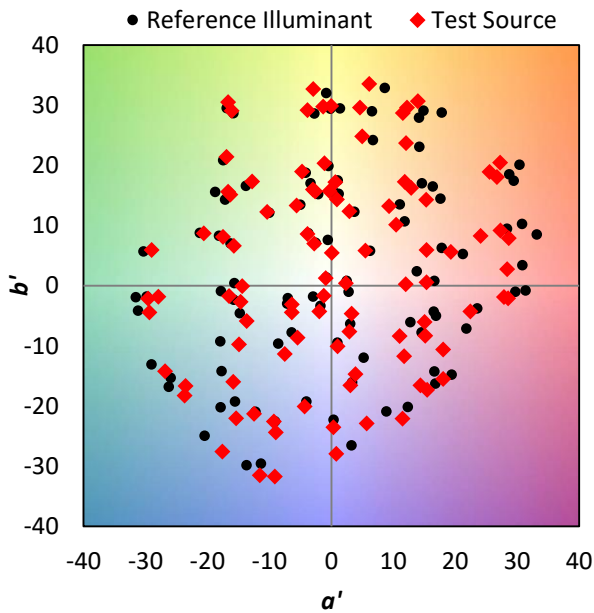
TM-30-18

Summary

$R_f = 86.1$
 $R_g = 95.3$
 CIE $R_a = 83.7$
 $R_9 = 8.1$

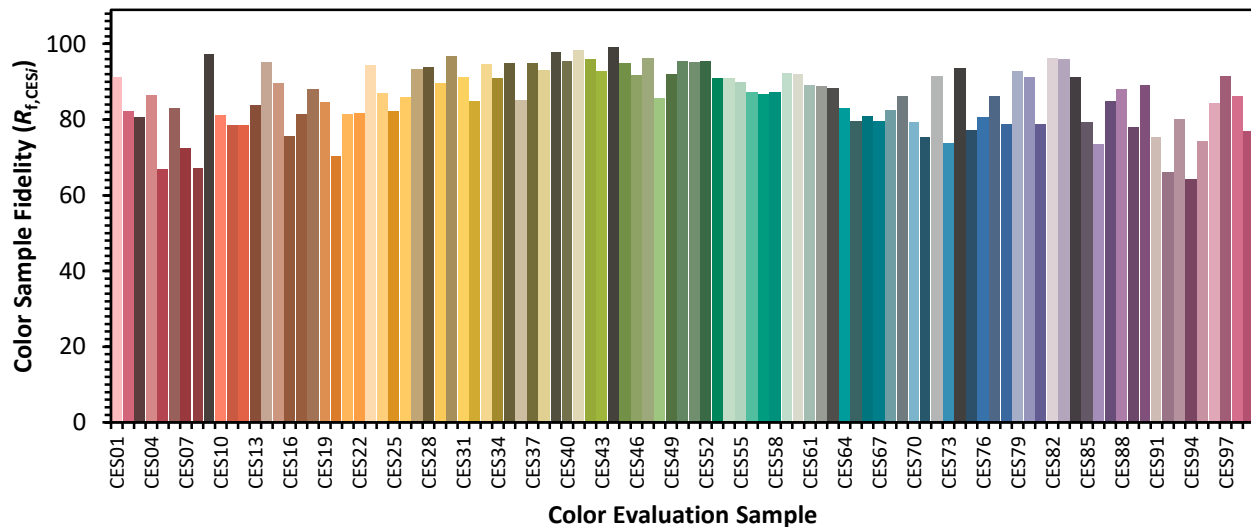


Color Vector Graphics

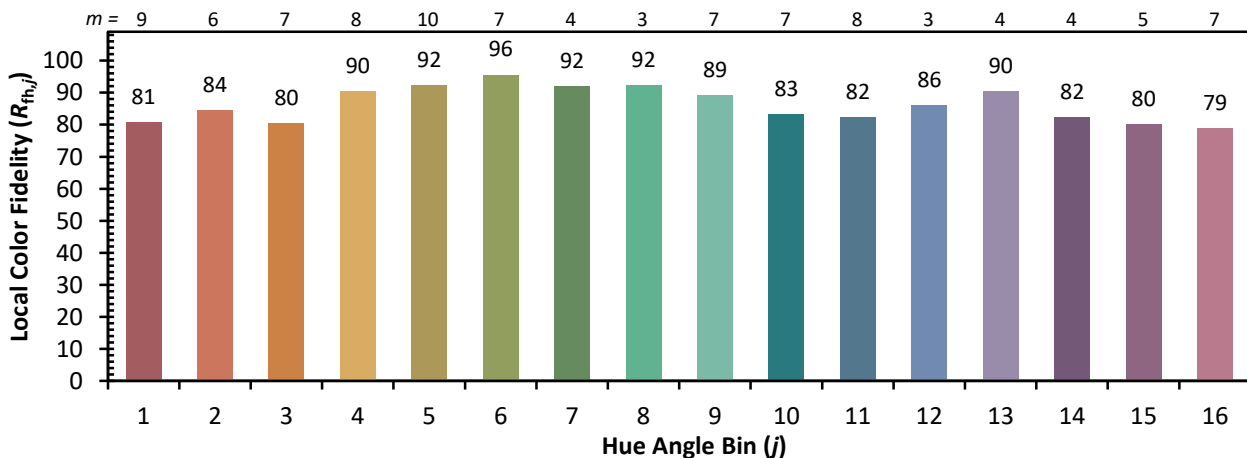
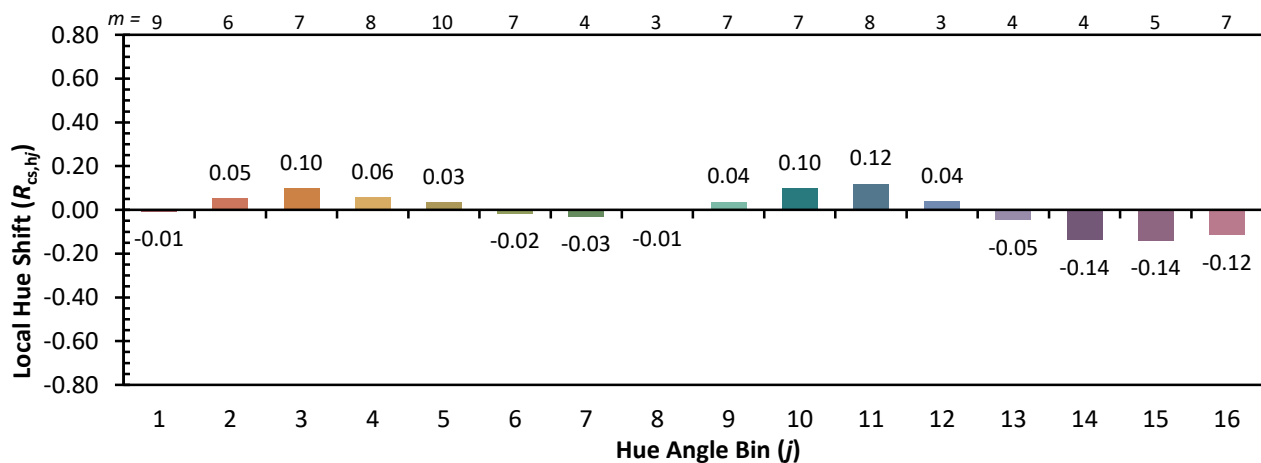
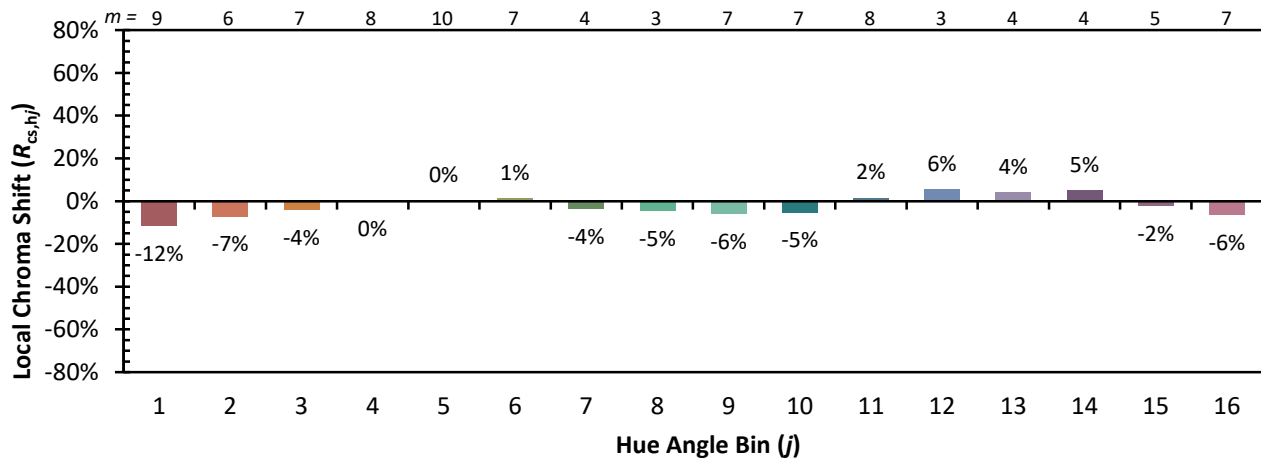


Individual Sample Fidelity Index ($R_{f,i}$)

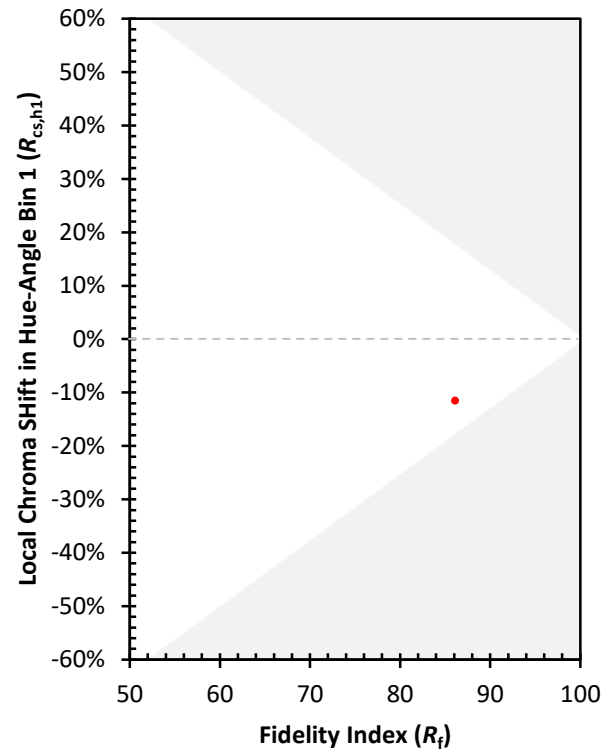
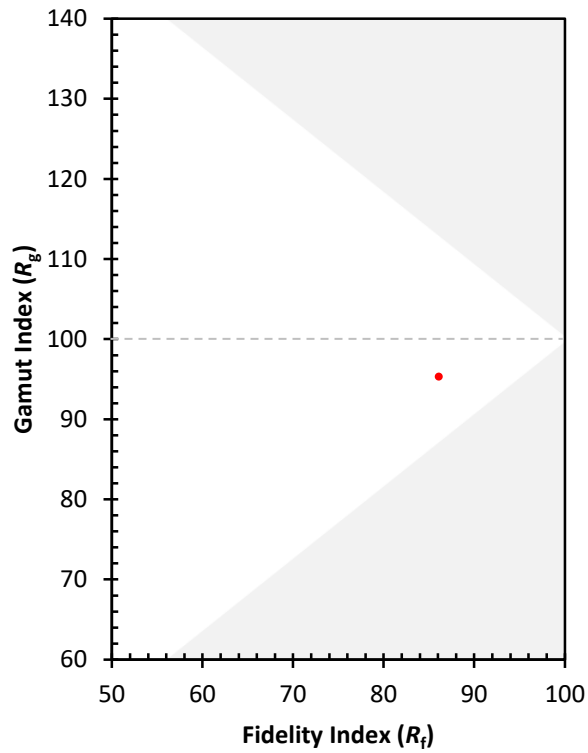
CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 81
CES02 = 61	CES27 = 93	CES52 = 95	CES77 = 86
CES03 = 31	CES28 = 94	CES53 = 91	CES78 = 79
CES04 = 70	CES29 = 90	CES54 = 91	CES79 = 93
CES05 = 48	CES30 = 97	CES55 = 90	CES80 = 91
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 79
CES07 = 41	CES32 = 85	CES57 = 87	CES82 = 96
CES08 = 40	CES33 = 95	CES58 = 87	CES83 = 96
CES09 = 29	CES34 = 91	CES59 = 92	CES84 = 91
CES10 = 74	CES35 = 95	CES60 = 92	CES85 = 79
CES11 = 57	CES36 = 85	CES61 = 89	CES86 = 74
CES12 = 63	CES37 = 95	CES62 = 89	CES87 = 85
CES13 = 43	CES38 = 93	CES63 = 88	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 83	CES89 = 78
CES15 = 71	CES40 = 95	CES65 = 80	CES90 = 89
CES16 = 47	CES41 = 98	CES66 = 81	CES91 = 75
CES17 = 49	CES42 = 96	CES67 = 80	CES92 = 66
CES18 = 56	CES43 = 93	CES68 = 82	CES93 = 80
CES19 = 71	CES44 = 99	CES69 = 86	CES94 = 64
CES20 = 65	CES45 = 95	CES70 = 79	CES95 = 74
CES21 = 86	CES46 = 92	CES71 = 75	CES96 = 84
CES22 = 78	CES47 = 96	CES72 = 92	CES97 = 92
CES23 = 91	CES48 = 86	CES73 = 74	CES98 = 86
CES24 = 90	CES49 = 92	CES74 = 94	CES99 = 77
CES25 = 71	CES50 = 95	CES75 = 77	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)