

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: P870714

Luminaire Tested: **EMM2-HTN-SA2A-840-U-T2U**

Issue Date: 09/05/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P870714  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 09/05/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HTN-SA2A-840-U-T2U  
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 70W 80CRI 4000K  
FIXTURE w/ TYPE II URBAN DISTRIBUTION OPTIC  
Light Source: (20) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

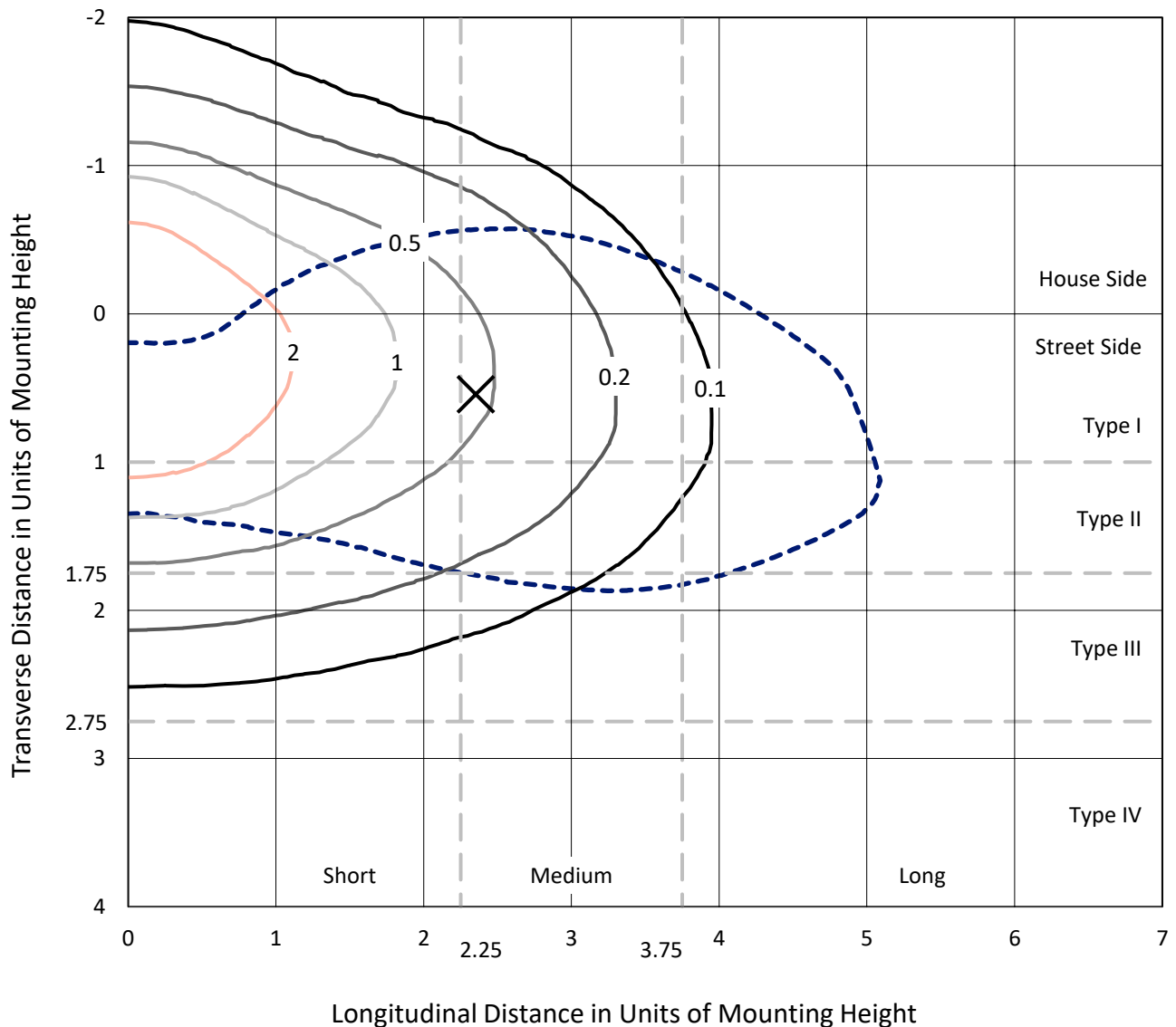
Lumens per Lamp: N/A  
Luminaire Lumens: 8939.4 lumens  
Efficiency: N/A  
Efficacy: 146.5 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 0.33' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G2

Input Watts (W): 61  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 9.89%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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 CATALOG NUMBER: EMM2-HTN-SA2A-840-U-T2U

### Iso-Footcandle Lines of Horizontal Illumination

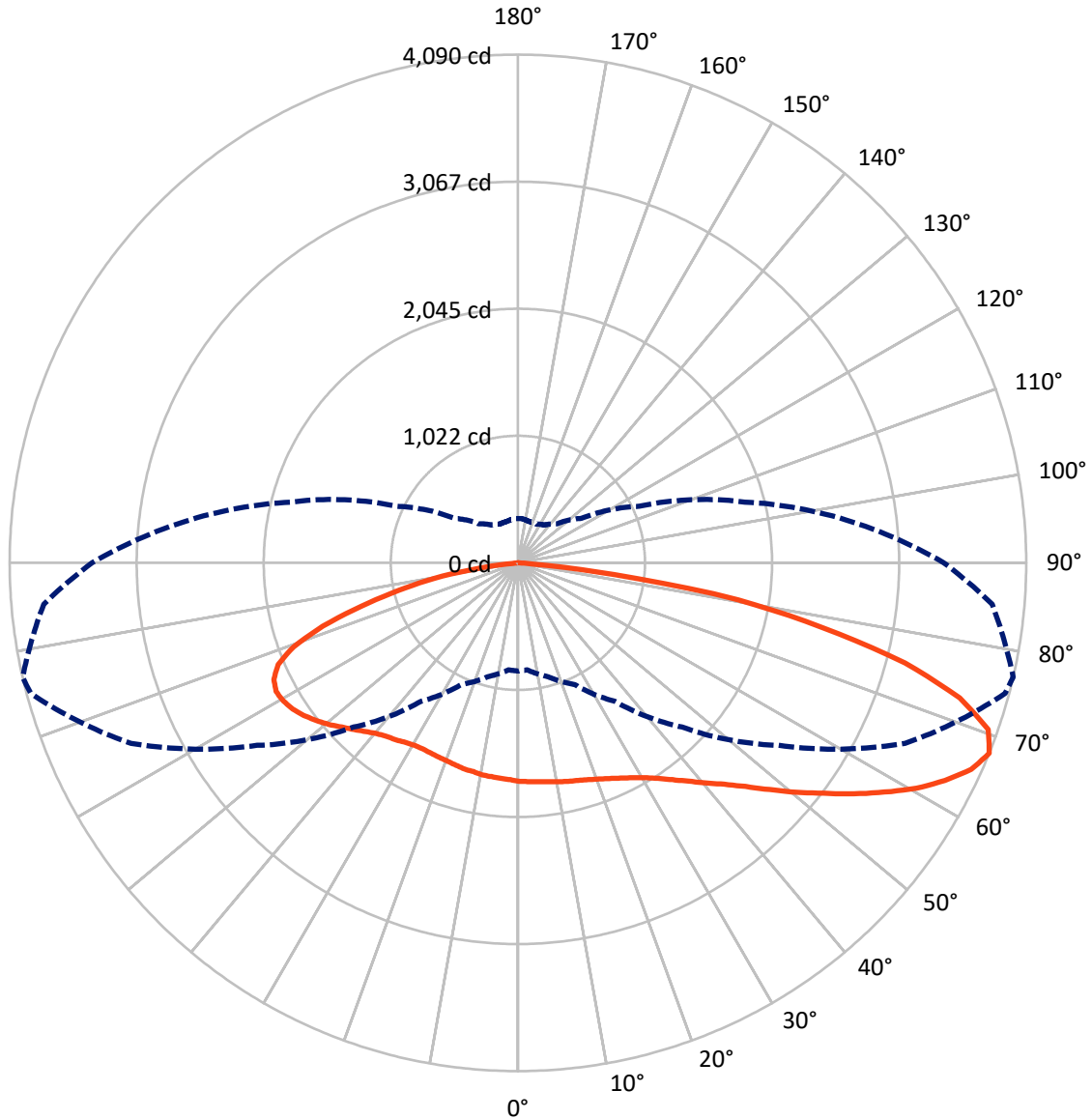
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.8 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2972.7	0.0	2972.7
	% Fixture	33.3	0.0	33.3
<b>Street Side</b>	Lumens	5966.7	0.0	5966.7
	% Fixture	66.7	0.0	66.7
<b>Total</b>	Lumens	8939.4	0.0	8939.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.9	1.9
10°-20°	512.3	5.7
20°-30°	863.7	9.7
30°-40°	1225.7	13.7
40°-50°	1550.8	17.3
50°-60°	1698.8	19.0
60°-70°	1642.2	18.4
70°-80°	1104.4	12.4
80°-90°	172.6	1.9
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°	8939.4	100.0
0°-180°	8939.4	100.0

**Coefficient of Utilization**



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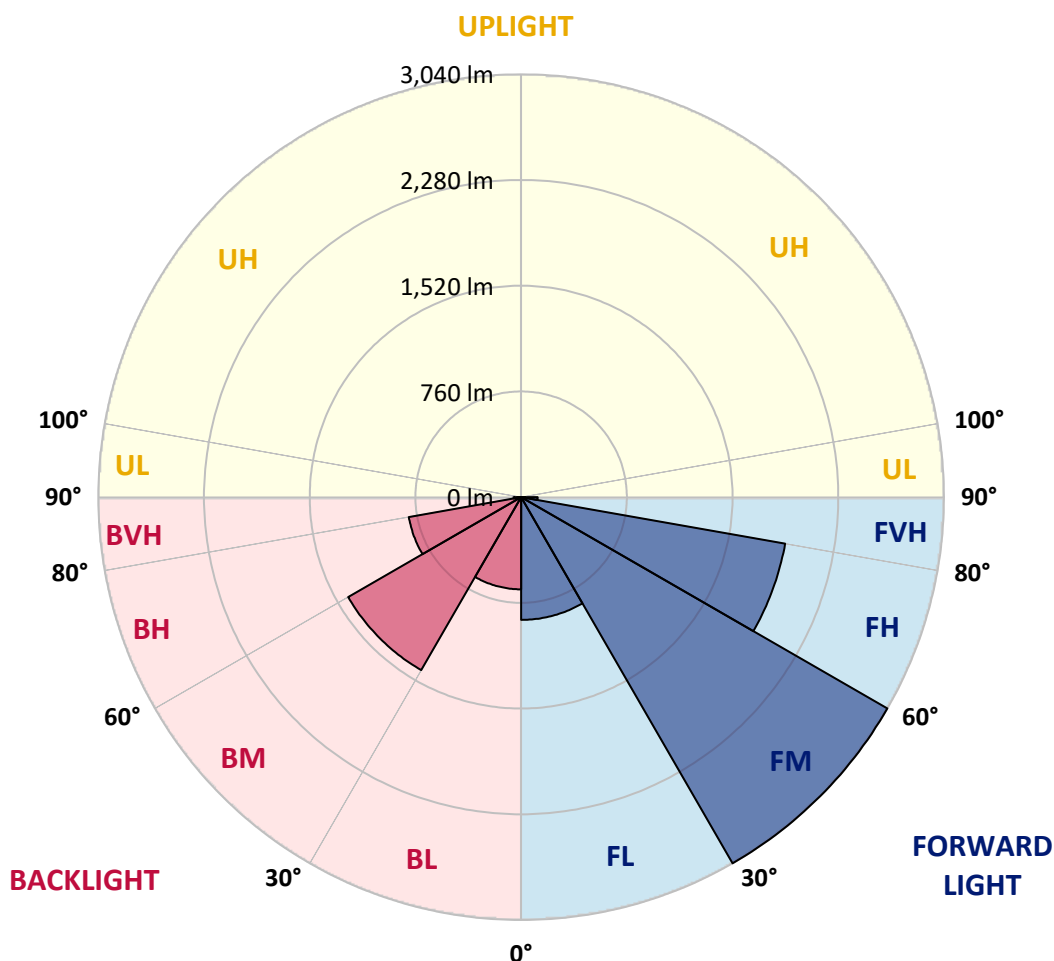
CATALOG NUMBER: EMM2-HTN-SA2A-840-U-T2U

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	882.3	9.9			
FM	(30°-60°)	3039.5	34.0			
FH	(60°-80°)	1926.7	21.6			G2/5000
FVH	(80°-90°)	118.2	1.3			G2/225
BL	(0°-30°)	662.7	7.4	B2/1000		
BM	(30°-60°)	1435.7	16.1	B2/2500		
BH	(60°-80°)	819.9	9.2	B2/1000		G2/1000
BVH	(80°-90°)	54.4	0.6			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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77°	85°
0°	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6
2.5°	1796.5	1794.7	1785.9	1789.4	1778.8	1785.9	1775.3	1766.4	1764.7	1762.9	1764.7
5°	1853.1	1844.2	1835.4	1830.1	1821.2	1817.7	1800.0	1782.3	1771.7	1770.0	1766.4
7.5°	1918.5	1915.0	1902.6	1895.5	1870.7	1858.4	1833.6	1801.8	1785.9	1778.8	1770.0
10°	1985.7	1994.5	1978.6	1964.5	1936.2	1909.6	1867.2	1826.5	1794.7	1791.2	1771.7
12.5°	2068.8	2067.0	2056.4	2031.7	1998.1	1960.9	1909.6	1853.1	1810.6	1803.6	1775.3
15°	2143.1	2141.3	2127.1	2104.2	2059.9	2014.0	1945.0	1879.6	1826.5	1815.9	1782.3
17.5°	2212.0	2208.5	2199.6	2174.9	2120.1	2063.5	1996.3	1909.6	1846.0	1833.6	1787.6
20°	2272.1	2275.7	2265.1	2240.3	2189.0	2128.9	2044.0	1948.5	1870.7	1856.6	1803.6
22.5°	2337.6	2339.3	2334.0	2325.2	2259.8	2196.1	2104.2	1992.8	1899.0	1884.9	1821.2
25°	2406.5	2408.3	2411.8	2406.5	2332.2	2263.3	2166.0	2047.6	1937.9	1918.5	1846.0
27.5°	2486.1	2487.8	2494.9	2484.3	2404.7	2332.2	2235.0	2105.9	1978.6	1957.4	1867.2
30°	2576.3	2583.3	2578.0	2574.5	2482.5	2411.8	2304.0	2166.0	2031.7	2005.1	1904.3
32.5°	2684.1	2682.3	2671.7	2661.1	2567.4	2493.2	2381.8	2243.8	2097.1	2067.0	1964.5
35°	2761.9	2761.9	2746.0	2740.7	2654.1	2576.3	2466.6	2330.5	2171.3	2143.1	2028.1
37.5°	2809.7	2816.7	2804.4	2807.9	2724.8	2652.3	2551.5	2418.9	2252.7	2227.9	2105.9
40°	2827.3	2845.0	2855.6	2869.8	2786.7	2724.8	2641.7	2514.4	2357.0	2328.7	2199.6
42.5°	2830.9	2857.4	2894.5	2924.6	2830.9	2779.6	2728.3	2611.6	2459.6	2434.8	2302.2
45°	2813.2	2800.8	2891.0	2894.5	2855.6	2823.8	2804.4	2728.3	2608.1	2567.4	2429.5
47.5°	2678.8	2664.7	2689.4	2802.6	2825.6	2843.3	2882.2	2864.5	2756.6	2724.8	2576.3
50°	2461.3	2454.3	2553.3	2675.3	2751.3	2841.5	2945.8	2995.3	2921.1	2901.6	2761.9
52.5°	2102.4	2082.9	2284.5	2521.4	2654.1	2823.8	2990.0	3129.7	3106.7	3078.4	2921.1
55°	1874.3	1874.3	2010.4	2305.7	2530.3	2760.2	3018.3	3271.2	3311.8	3280.0	3103.2
57.5°	1630.3	1649.7	1791.2	1994.5	2351.7	2643.4	3014.8	3389.6	3509.9	3479.8	3295.9
60°	1421.6	1437.5	1518.9	1724.0	2141.3	2489.6	2975.9	3486.9	3693.8	3683.1	3465.7
62.5°	1209.4	1228.9	1294.3	1487.1	1863.7	2312.8	2894.5	3539.9	3867.0	3856.4	3637.2
65°	1039.7	1041.5	1106.9	1267.8	1586.1	2098.8	2751.3	3529.3	4001.4	4008.5	3782.2
67.5°	870.0	864.6	949.5	1080.4	1359.7	1869.0	2560.3	3435.6	4058.0	4089.8	3829.9
70°	640.1	647.2	765.6	910.6	1149.3	1603.8	2293.3	3253.5	3966.1	4015.6	3720.3
72.5°	480.9	495.1	610.0	760.3	960.1	1338.5	2001.6	2937.0	3709.7	3716.7	3386.1
75°	390.8	394.3	496.9	631.2	786.8	1073.3	1607.3	2452.5	3136.8	3218.1	2876.9
77.5°	332.4	328.9	378.4	509.2	634.8	857.6	1211.2	1865.4	2463.1	2500.2	2252.7
80°	282.9	281.1	298.8	412.0	496.9	611.8	829.3	1299.6	1757.6	1798.3	1600.2
82.5°	148.5	159.1	155.6	254.6	281.1	321.8	397.8	590.6	767.4	778.0	735.6
85°	7.1	7.1	7.1	10.6	17.7	28.3	54.8	54.8	60.1	114.9	130.8
87.5°	1.8	1.8	3.5	3.5	3.5	5.3	5.3	7.1	7.1	7.1	7.1
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: EMM2-HTN-SA2A-840-U-T2U

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6	1757.6
2.5°	1761.1	1754.0	1743.4	1745.2	1743.4	1743.4	1734.6	1727.5	1725.8	1729.3	1736.4
5°	1762.9	1752.3	1736.4	1731.1	1725.8	1722.2	1708.1	1697.5	1692.2	1695.7	1697.5
7.5°	1762.9	1747.0	1729.3	1718.7	1704.5	1693.9	1678.0	1663.9	1656.8	1658.6	1662.1
10°	1759.4	1741.7	1727.5	1706.3	1683.3	1670.9	1646.2	1628.5	1619.7	1621.4	1612.6
12.5°	1759.4	1739.9	1711.6	1692.2	1660.3	1633.8	1614.4	1594.9	1587.8	1580.8	1577.2
15°	1761.1	1736.4	1708.1	1667.4	1630.3	1602.0	1577.2	1564.9	1554.2	1550.7	1552.5
17.5°	1761.1	1736.4	1693.9	1646.2	1603.8	1568.4	1547.2	1533.0	1529.5	1526.0	1526.0
20°	1770.0	1738.1	1681.6	1625.0	1571.9	1534.8	1515.3	1506.5	1506.5	1501.2	1501.2
22.5°	1784.1	1741.7	1674.5	1607.3	1545.4	1504.7	1483.5	1472.9	1478.2	1474.7	1472.9
25°	1800.0	1754.0	1665.6	1582.5	1510.0	1467.6	1446.4	1439.3	1437.5	1428.7	1441.1
27.5°	1812.4	1762.9	1660.3	1557.8	1478.2	1428.7	1402.2	1389.8	1381.0	1384.5	1381.0
30°	1846.0	1787.6	1662.1	1536.6	1442.8	1382.7	1350.9	1336.8	1333.2	1333.2	1333.2
32.5°	1892.0	1819.5	1674.5	1527.7	1409.3	1338.5	1299.6	1285.5	1281.9	1274.9	1278.4
35°	1950.3	1867.2	1693.9	1513.6	1382.7	1287.2	1244.8	1225.4	1220.1	1213.0	1213.0
37.5°	2015.7	1915.0	1708.1	1506.5	1347.4	1234.2	1186.5	1161.7	1158.2	1151.1	1154.6
40°	2098.8	1980.4	1731.1	1492.4	1306.7	1186.5	1122.8	1082.1	1091.0	1094.5	1101.6
42.5°	2192.6	2063.5	1766.4	1478.2	1274.9	1136.9	1043.2	1002.6	1013.2	1009.6	1016.7
45°	2319.9	2160.7	1810.6	1472.9	1236.0	1076.8	961.9	915.9	912.4	907.1	910.6
47.5°	2452.5	2277.4	1853.1	1462.3	1193.5	1002.6	870.0	811.6	797.5	790.4	783.3
50°	2590.4	2394.1	1902.6	1455.2	1136.9	919.5	778.0	710.8	684.3	675.4	666.6
52.5°	2746.0	2519.7	1945.0	1437.5	1075.1	832.8	694.9	618.9	588.8	571.1	572.9
55°	2910.4	2634.6	1983.9	1416.3	1004.3	751.5	611.8	548.1	518.1	512.8	512.8
57.5°	3062.5	2753.1	2012.2	1379.2	933.6	671.9	542.8	488.0	473.9	480.9	480.9
60°	3218.1	2848.6	2026.3	1338.5	861.1	604.7	495.1	450.9	443.8	458.0	459.7
62.5°	3343.7	2924.6	2022.8	1281.9	781.5	546.4	449.1	413.8	417.3	442.0	447.4
65°	3433.8	2961.7	1978.6	1197.1	705.5	495.1	408.5	374.9	374.9	392.5	397.8
67.5°	3426.8	2914.0	1890.2	1078.6	624.2	443.8	371.3	344.8	344.8	357.2	355.4
70°	3281.8	2749.5	1722.2	935.4	544.6	399.6	339.5	320.0	318.3	323.6	321.8
72.5°	2933.4	2415.4	1460.5	772.7	470.3	355.4	307.7	290.0	286.4	279.4	274.1
75°	2420.7	1983.9	1140.5	615.3	397.8	313.0	277.6	261.7	247.5	256.4	251.1
77.5°	1877.8	1522.4	848.7	477.4	323.6	272.3	247.5	229.9	226.3	258.2	247.5
80°	1370.3	1052.1	599.4	341.3	251.1	221.0	206.9	192.7	244.0	327.1	325.3
82.5°	608.3	507.5	274.1	162.7	116.7	97.3	81.3	91.9	153.8	150.3	155.6
85°	54.8	56.6	30.1	19.5	12.4	10.6	7.1	7.1	5.3	5.3	5.3
87.5°	7.1	7.1	5.3	5.3	3.5	3.5	3.5	3.5	1.8	1.8	1.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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

Streetworks

Report Number: SP1-2407-157-8

Test Date: 09/05/2024

Luminaire Tested: MEM2-HTN-SA-40-840-U-5WQ

Data in this report applies to families of products including MEM2-HTN-SA-40-840-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-8  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 09/05/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-SA-40-840-U-5WQ**  
 Description: Epic Modern Light Square 40W 5WQ Optic

**Spectral Parameters**

CCT (K): 3996  
 CIE u': 0.2245  
 CIE v': 0.5031  
 Duv: 0.0012  
 CIE x: 0.3815  
 CIE y: 0.3799  
 CIE z: 0.2386  
 Peak Wavelength (nm): 449  
 Dominant Wavelength (nm): 578  
 Purity: 28.49233  
 Rf: 82.6  
 Rg: 95.1

CRI (Ra):	80.6		
R1:	78.1	R9:	-5.8
R2:	87.1	R10:	70.3
R3:	94.5	R11:	78.7
R4:	79.7	R12:	60.5
R5:	78.7	R13:	80.2
R6:	82.7	R14:	97.2
R7:	84.3	R15:	70.6
R8:	59.5		



**Test Conditions**

Stabilization Time: 29M  
 Operation Time: 1H 29M  
 Sphere Temperature (°C): 24.3

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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	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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**CIE 1931 Chromaticity Diagram**



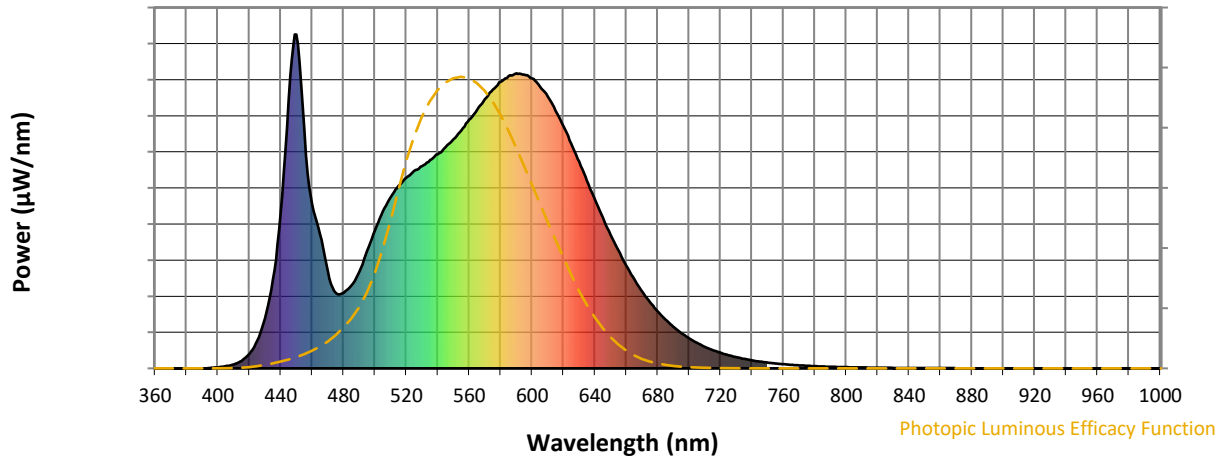
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
360	0	NR	490	289	NR	620	725	NR	750	17	NR	880	0	NR
365	0	NR	495	351	NR	625	673	NR	755	15	NR	885	0	NR
370	0	NR	500	414	NR	630	619	NR	760	13	NR	890	0	NR
375	0	NR	505	470	NR	635	562	NR	765	11	NR	895	0	NR
380	0	NR	510	513	NR	640	506	NR	770	9	NR	900	0	NR
385	0	NR	515	546	NR	645	452	NR	775	8	NR	905	0	NR
390	0	NR	520	571	NR	650	400	NR	780	7	NR	910	0	NR
395	1	NR	525	592	NR	655	352	NR	785	6	NR	915	0	NR
400	3	NR	530	606	NR	660	307	NR	790	5	NR	920	0	NR
405	6	NR	535	624	NR	665	267	NR	795	4	NR	925	0	NR
410	12	NR	540	642	NR	670	231	NR	800	4	NR	930	0	NR
415	22	NR	545	663	NR	675	199	NR	805	3	NR	935	0	NR
420	44	NR	550	686	NR	680	171	NR	810	3	NR	940	0	NR
425	83	NR	555	713	NR	685	146	NR	815	2	NR	945	0	NR
430	150	NR	560	745	NR	690	125	NR	820	2	NR	950	0	NR
435	267	NR	565	774	NR	695	106	NR	825	2	NR	955	0	NR
440	466	NR	570	806	NR	700	90	NR	830	1	NR	960	0	NR
445	804	NR	575	835	NR	705	76	NR	835	1	NR	965	0	NR
450	1000	NR	580	858	NR	710	65	NR	840	1	NR	970	0	NR
455	715	NR	585	875	NR	715	55	NR	845	1	NR	975	0	NR
460	492	NR	590	884	NR	720	47	NR	850	1	NR	980	0	NR
465	402	NR	595	880	NR	725	40	NR	855	1	NR	985	0	NR
470	288	NR	600	868	NR	730	34	NR	860	1	NR	990	0	NR
475	226	NR	605	844	NR	735	28	NR	865	1	NR	995	0	NR
480	227	NR	610	814	NR	740	24	NR	870	0	NR	1000	0	NR
485	248	NR	615	771	NR	745	20	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



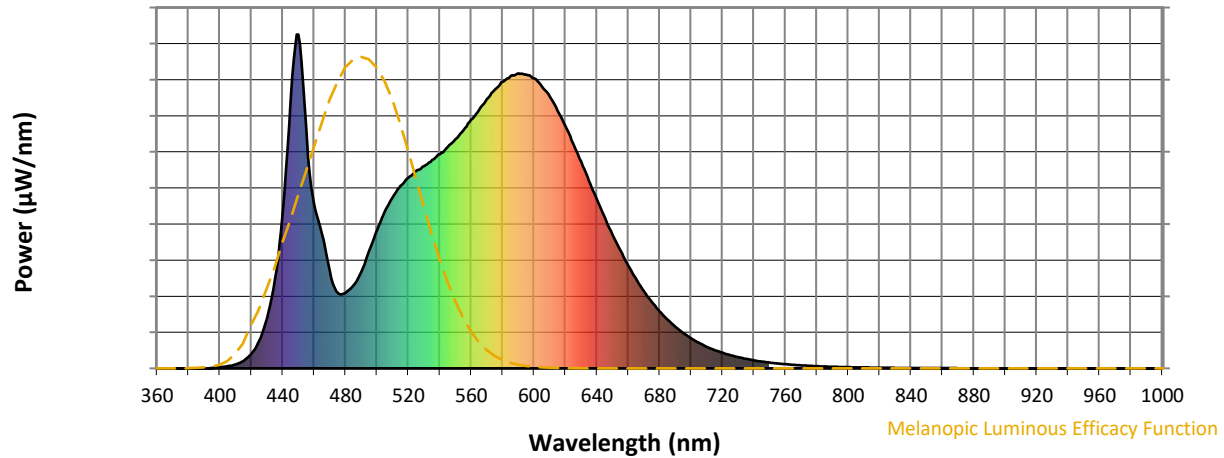
**Scotopic Lumens: NR**

**S/P: 1.66**

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	289	NR	620	725	NR	750	17	NR	880	0	NR
365	0	NR	495	351	NR	625	673	NR	755	15	NR	885	0	NR
370	0	NR	500	414	NR	630	619	NR	760	13	NR	890	0	NR
375	0	NR	505	470	NR	635	562	NR	765	11	NR	895	0	NR
380	0	NR	510	513	NR	640	506	NR	770	9	NR	900	0	NR
385	0	NR	515	546	NR	645	452	NR	775	8	NR	905	0	NR
390	0	NR	520	571	NR	650	400	NR	780	7	NR	910	0	NR
395	1	NR	525	592	NR	655	352	NR	785	6	NR	915	0	NR
400	3	NR	530	606	NR	660	307	NR	790	5	NR	920	0	NR
405	6	NR	535	624	NR	665	267	NR	795	4	NR	925	0	NR
410	12	NR	540	642	NR	670	231	NR	800	4	NR	930	0	NR
415	22	NR	545	663	NR	675	199	NR	805	3	NR	935	0	NR
420	44	NR	550	686	NR	680	171	NR	810	3	NR	940	0	NR
425	83	NR	555	713	NR	685	146	NR	815	2	NR	945	0	NR
430	150	NR	560	745	NR	690	125	NR	820	2	NR	950	0	NR
435	267	NR	565	774	NR	695	106	NR	825	2	NR	955	0	NR
440	466	NR	570	806	NR	700	90	NR	830	1	NR	960	0	NR
445	804	NR	575	835	NR	705	76	NR	835	1	NR	965	0	NR
450	1000	NR	580	858	NR	710	65	NR	840	1	NR	970	0	NR
455	715	NR	585	875	NR	715	55	NR	845	1	NR	975	0	NR
460	492	NR	590	884	NR	720	47	NR	850	1	NR	980	0	NR
465	402	NR	595	880	NR	725	40	NR	855	1	NR	985	0	NR
470	288	NR	600	868	NR	730	34	NR	860	1	NR	990	0	NR
475	226	NR	605	844	NR	735	28	NR	865	1	NR	995	0	NR
480	227	NR	610	814	NR	740	24	NR	870	0	NR	1000	0	NR
485	248	NR	615	771	NR	745	20	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.37

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	289	NR	620	725	NR	750	17	NR	880	0	NR
365	0	NR	495	351	NR	625	673	NR	755	15	NR	885	0	NR
370	0	NR	500	414	NR	630	619	NR	760	13	NR	890	0	NR
375	0	NR	505	470	NR	635	562	NR	765	11	NR	895	0	NR
380	0	NR	510	513	NR	640	506	NR	770	9	NR	900	0	NR
385	0	NR	515	546	NR	645	452	NR	775	8	NR	905	0	NR
390	0	NR	520	571	NR	650	400	NR	780	7	NR	910	0	NR
395	1	NR	525	592	NR	655	352	NR	785	6	NR	915	0	NR
400	3	NR	530	606	NR	660	307	NR	790	5	NR	920	0	NR
405	6	NR	535	624	NR	665	267	NR	795	4	NR	925	0	NR
410	12	NR	540	642	NR	670	231	NR	800	4	NR	930	0	NR
415	22	NR	545	663	NR	675	199	NR	805	3	NR	935	0	NR
420	44	NR	550	686	NR	680	171	NR	810	3	NR	940	0	NR
425	83	NR	555	713	NR	685	146	NR	815	2	NR	945	0	NR
430	150	NR	560	745	NR	690	125	NR	820	2	NR	950	0	NR
435	267	NR	565	774	NR	695	106	NR	825	2	NR	955	0	NR
440	466	NR	570	806	NR	700	90	NR	830	1	NR	960	0	NR
445	804	NR	575	835	NR	705	76	NR	835	1	NR	965	0	NR
450	1000	NR	580	858	NR	710	65	NR	840	1	NR	970	0	NR
455	715	NR	585	875	NR	715	55	NR	845	1	NR	975	0	NR
460	492	NR	590	884	NR	720	47	NR	850	1	NR	980	0	NR
465	402	NR	595	880	NR	725	40	NR	855	1	NR	985	0	NR
470	288	NR	600	868	NR	730	34	NR	860	1	NR	990	0	NR
475	226	NR	605	844	NR	735	28	NR	865	1	NR	995	0	NR
480	227	NR	610	814	NR	740	24	NR	870	0	NR	1000	0	NR
485	248	NR	615	771	NR	745	20	NR	875	0	NR			

**Summary**

$R_f = 82.6$   
 $R_g = 95.1$   
 CIE  $R_a = 80.6$   
 $R_9 = -5.8$



**Color Vector Graphics**



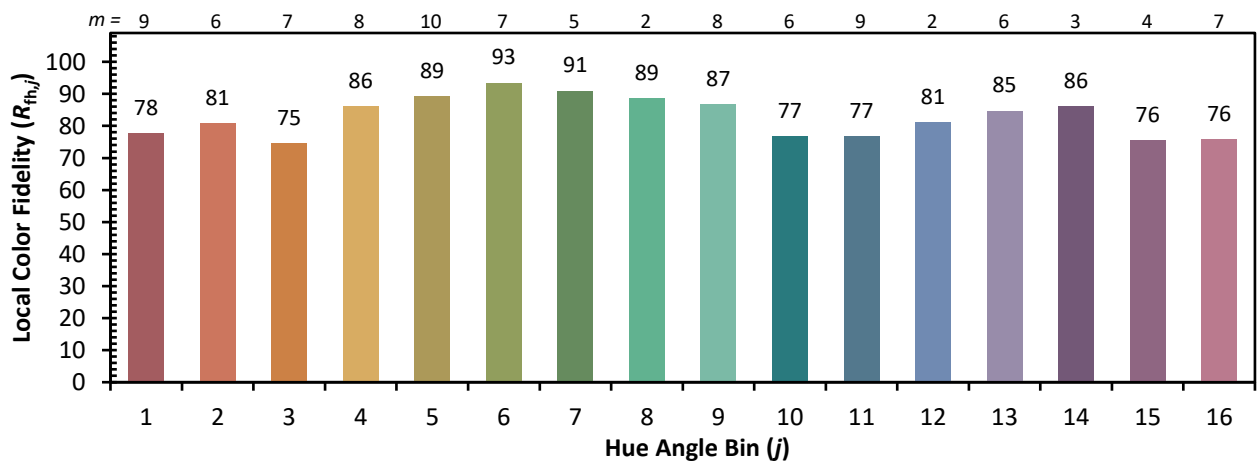
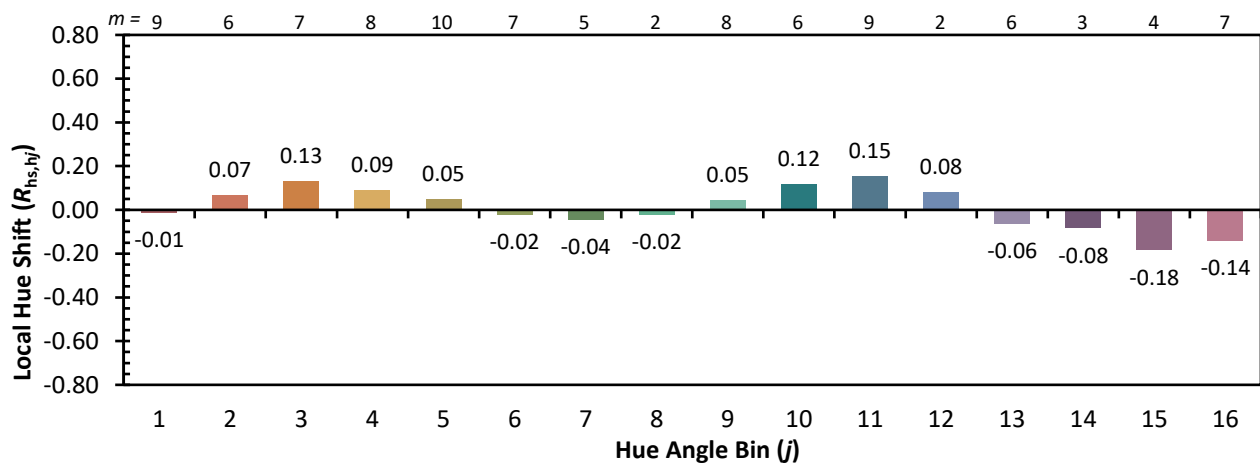
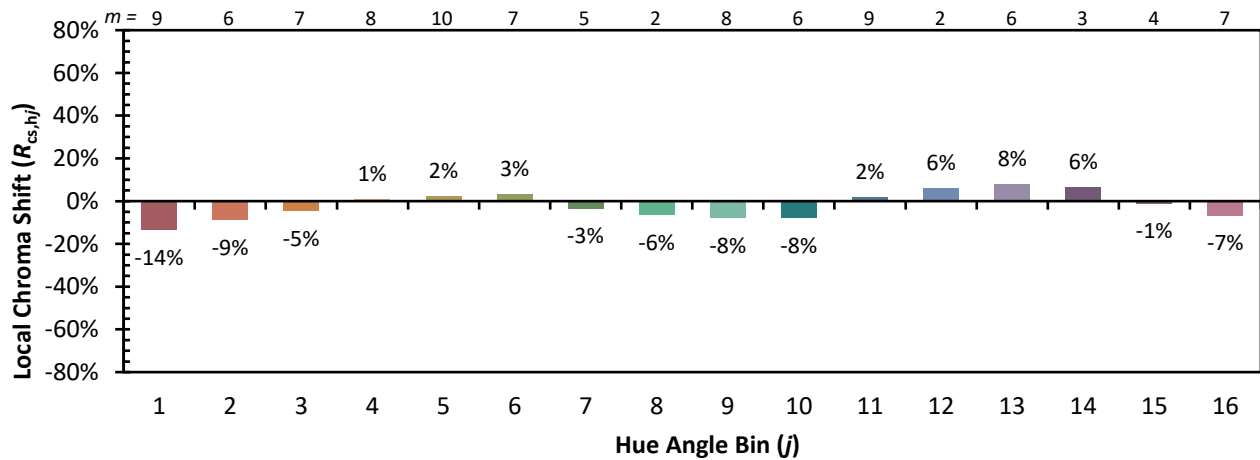


Individual Sample Fidelity Index ( $R_{f,i}$ )

CES01 = 85	CES26 = 79	CES51 = 94	CES76 = 72
CES02 = 61	CES27 = 93	CES52 = 94	CES77 = 82
CES03 = 31	CES28 = 90	CES53 = 88	CES78 = 71
CES04 = 69	CES29 = 83	CES54 = 89	CES79 = 91
CES05 = 48	CES30 = 95	CES55 = 88	CES80 = 88
CES06 = 50	CES31 = 86	CES56 = 84	CES81 = 80
CES07 = 40	CES32 = 78	CES57 = 84	CES82 = 95
CES08 = 39	CES33 = 90	CES58 = 84	CES83 = 95
CES09 = 29	CES34 = 85	CES59 = 90	CES84 = 90
CES10 = 74	CES35 = 92	CES60 = 91	CES85 = 78
CES11 = 57	CES36 = 85	CES61 = 87	CES86 = 73
CES12 = 63	CES37 = 91	CES62 = 87	CES87 = 83
CES13 = 42	CES38 = 95	CES63 = 84	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 78	CES89 = 76
CES15 = 71	CES40 = 94	CES65 = 75	CES90 = 87
CES16 = 46	CES41 = 98	CES66 = 75	CES91 = 72
CES17 = 49	CES42 = 92	CES67 = 73	CES92 = 62
CES18 = 56	CES43 = 88	CES68 = 77	CES93 = 78
CES19 = 71	CES44 = 99	CES69 = 82	CES94 = 60
CES20 = 65	CES45 = 93	CES70 = 72	CES95 = 70
CES21 = 86	CES46 = 90	CES71 = 67	CES96 = 82
CES22 = 78	CES47 = 95	CES72 = 89	CES97 = 90
CES23 = 91	CES48 = 84	CES73 = 65	CES98 = 84
CES24 = 90	CES49 = 89	CES74 = 93	CES99 = 73
CES25 = 71	CES50 = 94	CES75 = 69	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)