

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: P869010

Luminaire Tested: **EMM2-HSN-SA3A-722-U-T4W**

Issue Date: 08/22/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P869010  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/22/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-SA3A-722-U-T4W  
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 130W 70CRI 2200K  
FIXTURE w/ TYPE IV WIDE DISTRIBUTION OPTIC  
Light Source: (30) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

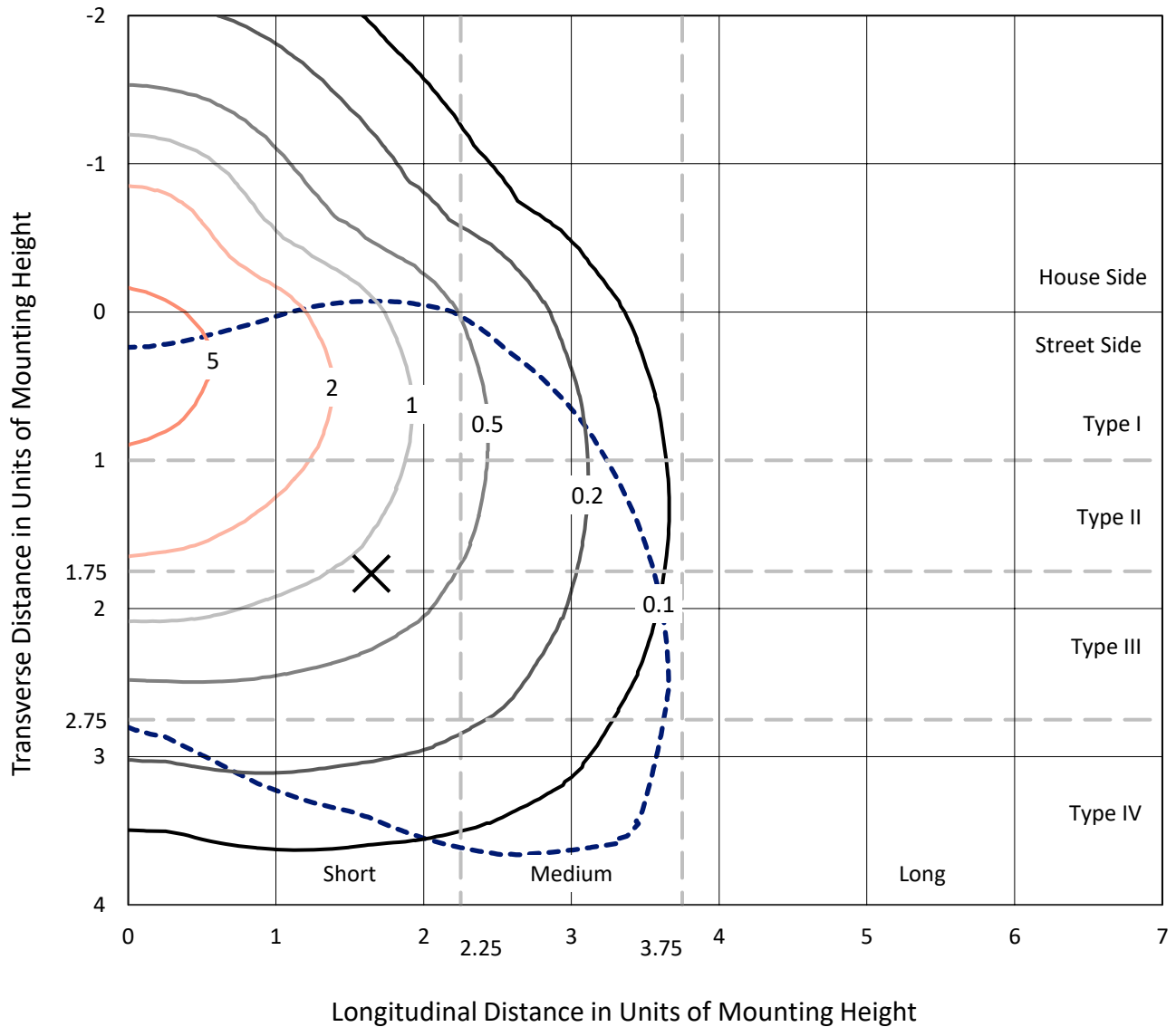
Lumens per Lamp: N/A  
Luminaire Lumens: 14308.4 lumens  
Efficiency: N/A  
Efficacy: 126.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

Input Watts (W): 113  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 7.77%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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 CATALOG NUMBER: EMM2-HSN-SA3A-722-U-T4W

### Iso-Footcandle Lines of Horizontal Illumination

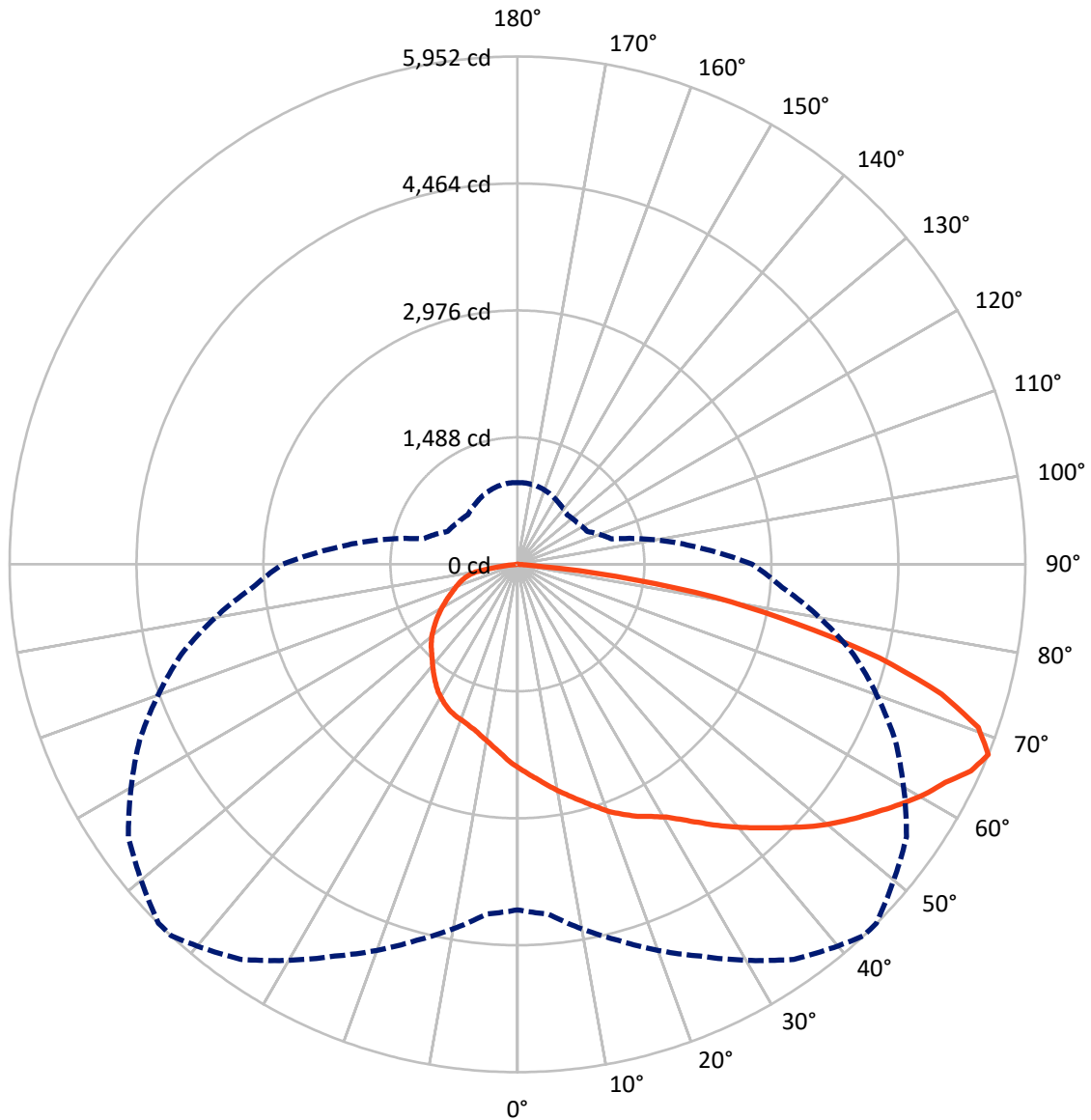
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 43-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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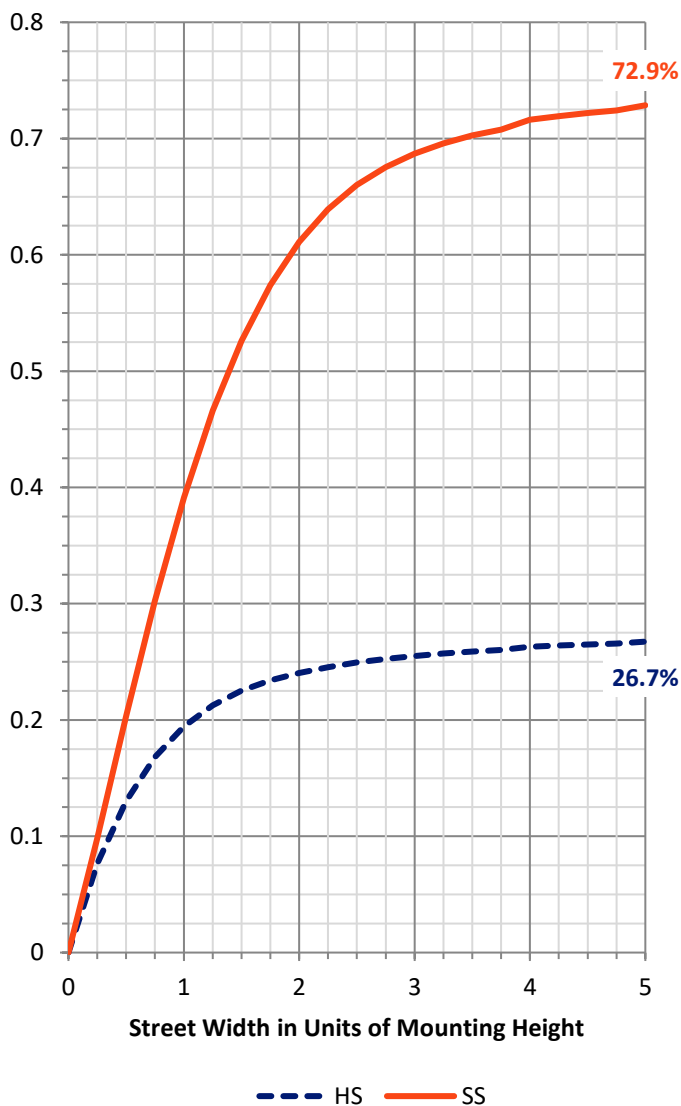
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3849.0	0.0	3849.0
	% Fixture	26.9	0.0	26.9
<b>Street Side</b>	Lumens	10459.4	0.0	10459.4
	% Fixture	73.1	0.0	73.1
<b>Total</b>	Lumens	14308.4	0.0	14308.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	228.6	1.6
10°-20°	698.1	4.9
20°-30°	1191.0	8.3
30°-40°	1737.1	12.1
40°-50°	2333.5	16.3
50°-60°	2856.6	20.0
60°-70°	3006.4	21.0
70°-80°	1962.7	13.7
80°-90°	294.4	2.1
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°	14308.4	100.0
0°-180°	14308.4	100.0



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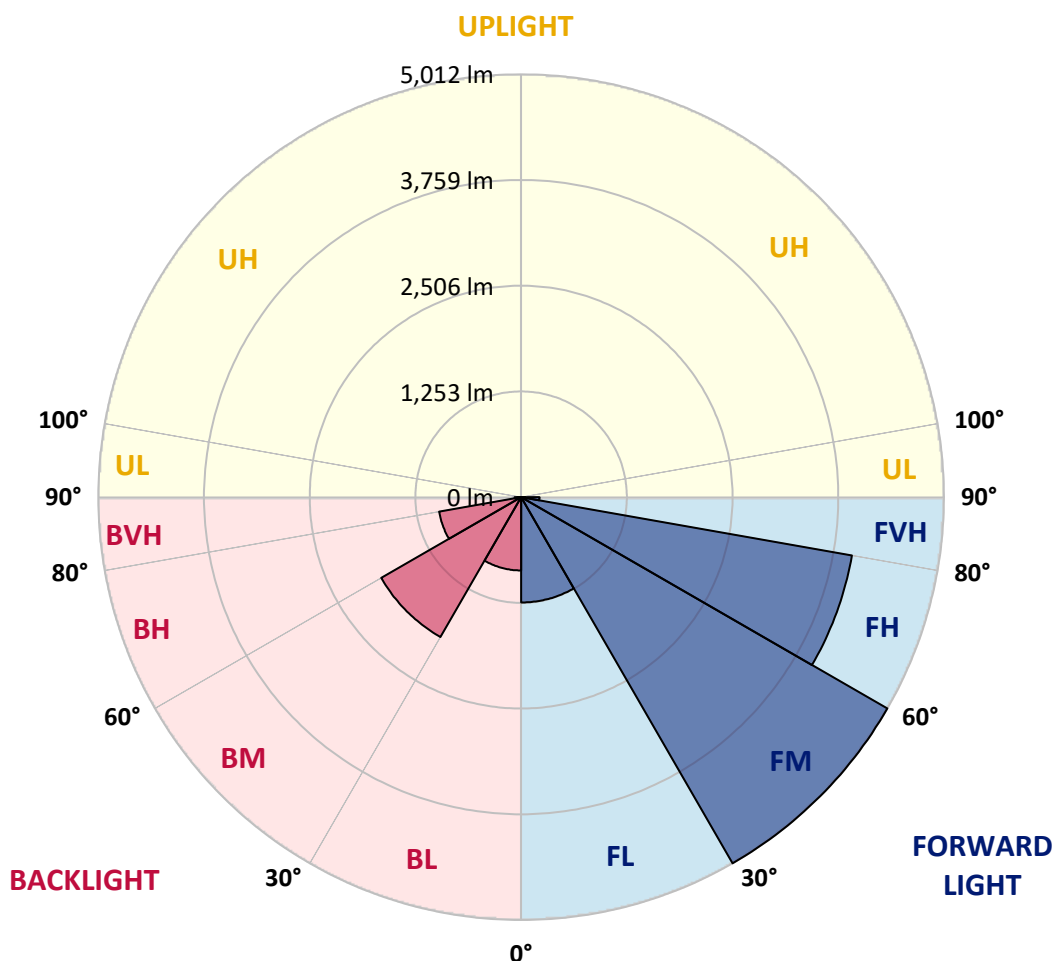
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1248.7	8.7			
FM (30°-60°)	5012.1	35.0			
FH (60°-80°)	3981.4	27.8			G2/5000
FVH (80°-90°)	217.2	1.5			G2/225
BL (0°-30°)	869.0	6.1	B2/1000		
BM (30°-60°)	1915.1	13.4	B2/2500		
BH (60°-80°)	987.8	6.9	B2/1000		G2/1000
BVH (80°-90°)	77.2	0.5			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°	43°	45°	55°	65°	75°	85°
0°	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5
2.5°	2498.5	2495.6	2486.9	2481.1	2463.8	2460.9	2460.9	2443.5	2423.2	2411.7	2400.1
5°	2611.4	2597.0	2591.2	2579.6	2550.6	2533.3	2539.1	2507.2	2466.7	2437.7	2405.9
7.5°	2712.8	2707.0	2686.7	2672.2	2637.5	2620.1	2614.3	2565.1	2513.0	2469.6	2417.5
10°	2834.4	2819.9	2808.3	2779.3	2733.0	2707.0	2698.3	2634.6	2568.0	2510.1	2440.6
12.5°	2944.4	2927.0	2912.5	2883.6	2837.3	2793.8	2782.2	2709.9	2625.9	2547.7	2460.9
15°	3028.3	3031.2	3016.8	2990.7	2938.6	2886.5	2877.8	2782.2	2680.9	2585.4	2481.1
17.5°	3106.5	3118.1	3109.4	3092.0	3039.9	2987.8	2979.1	2872.0	2750.4	2628.8	2504.3
20°	3181.8	3181.8	3178.9	3167.3	3129.7	3094.9	3077.6	2970.4	2817.0	2675.1	2536.2
22.5°	3225.2	3236.8	3236.8	3236.8	3213.6	3184.7	3178.9	3074.7	2906.7	2733.0	2565.1
25°	3291.8	3306.3	3306.3	3300.5	3280.2	3271.5	3262.8	3164.4	2993.6	2799.6	2597.0
27.5°	3433.7	3430.8	3407.6	3378.6	3349.7	3346.8	3335.2	3265.7	3094.9	2872.0	2640.4
30°	3630.5	3636.3	3607.4	3517.6	3451.0	3436.6	3439.4	3378.6	3213.6	2956.0	2689.6
32.5°	3931.6	3931.6	3818.7	3702.9	3607.4	3569.7	3561.0	3508.9	3335.2	3048.6	2744.6
35°	4157.4	4148.8	4085.1	3949.0	3830.3	3723.2	3708.7	3639.2	3471.3	3152.8	2805.4
37.5°	4328.3	4345.6	4296.4	4192.2	4076.4	3891.1	3862.1	3763.7	3595.8	3254.2	2866.2
40°	4658.3	4614.9	4496.2	4400.6	4261.7	4056.1	4030.1	3908.5	3723.2	3367.1	2941.5
42.5°	4898.6	4837.8	4701.7	4574.3	4400.6	4221.1	4198.0	4064.8	3870.8	3494.5	3019.6
45°	5243.1	5107.1	4918.9	4806.0	4559.9	4400.6	4371.7	4226.9	4024.3	3630.5	3118.1
47.5°	5576.1	5338.7	5138.9	5086.8	4733.6	4594.6	4571.5	4403.5	4189.3	3778.2	3213.6
50°	5532.6	5376.3	5309.7	5260.5	4884.1	4777.0	4753.8	4583.0	4357.2	3934.5	3309.2
52.5°	5422.6	5437.1	5440.0	5321.3	5026.0	4947.8	4924.7	4777.0	4530.9	4070.6	3401.8
55°	5538.4	5555.8	5552.9	5373.4	5191.0	5118.6	5104.2	4973.9	4698.8	4198.0	3468.4
57.5°	5715.0	5657.1	5648.4	5503.7	5367.6	5301.0	5283.7	5170.7	4840.7	4290.6	3520.5
60°	5746.9	5631.1	5668.7	5532.6	5500.8	5480.5	5474.7	5341.6	4973.9	4365.9	3540.8
62.5°	5390.8	5370.5	5518.2	5463.2	5570.3	5628.2	5631.1	5463.2	5046.3	4394.8	3520.5
65°	4782.8	4863.9	5182.3	5341.6	5674.5	5839.5	5833.7	5535.5	5037.6	4310.9	3396.0
67.5°	4050.3	4114.0	4562.8	5066.5	5651.3	5952.4	5949.5	5567.4	4887.0	4079.3	3115.2
70°	3071.8	3271.5	3908.5	4571.5	5338.7	5729.5	5778.7	5387.9	4542.5	3656.6	2689.6
72.5°	2336.4	2368.2	3138.3	3833.2	4779.9	5199.7	5191.0	4814.6	3966.4	3080.4	2240.9
75°	1658.9	1728.4	2362.4	2970.4	3917.1	4383.3	4363.0	3949.0	3164.4	2397.2	1713.9
77.5°	1236.2	1262.3	1728.4	2203.2	2929.9	3349.7	3341.0	2918.3	2327.7	1760.3	1276.8
80°	903.3	946.7	1244.9	1537.3	1986.1	2348.0	2336.4	1936.9	1493.9	1230.4	932.2
82.5°	506.7	538.5	723.8	929.3	1048.0	1161.0	1111.7	929.3	680.4	529.8	457.4
85°	14.5	17.4	26.1	31.8	55.0	92.6	101.3	89.7	107.1	66.6	72.4
87.5°	5.8	5.8	5.8	5.8	5.8	8.7	8.7	8.7	8.7	8.7	8.7
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: EMM2-HSN-SA3A-722-U-T4W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5	2388.5
2.5°	2394.3	2382.7	2359.6	2345.1	2336.4	2324.8	2307.4	2295.9	2287.2	2298.8	2295.9
5°	2391.4	2368.2	2327.7	2298.8	2269.8	2246.6	2220.6	2200.3	2188.7	2194.5	2191.6
7.5°	2391.4	2362.4	2298.8	2252.4	2209.0	2174.3	2145.3	2119.3	2107.7	2110.6	2107.7
10°	2403.0	2362.4	2278.5	2211.9	2154.0	2113.5	2081.6	2058.5	2049.8	2058.5	2061.4
12.5°	2414.6	2362.4	2261.1	2177.2	2101.9	2058.5	2029.5	2015.0	2020.8	2023.7	2026.6
15°	2420.4	2359.6	2243.7	2136.6	2052.7	2006.3	1989.0	1986.1	2000.6	2015.0	2017.9
17.5°	2434.8	2356.7	2217.7	2096.1	2009.2	1971.6	1962.9	1974.5	2003.4	2023.7	2029.5
20°	2452.2	2362.4	2188.7	2046.9	1965.8	1936.9	1951.3	1977.4	2012.1	2041.1	2046.9
22.5°	2469.6	2365.3	2162.7	2003.4	1919.5	1913.7	1945.5	1983.2	2023.7	2052.7	2058.5
25°	2489.8	2365.3	2127.9	1948.4	1873.2	1881.9	1931.1	1980.3	2017.9	2055.6	2061.4
27.5°	2510.1	2371.1	2090.3	1887.6	1815.3	1841.3	1902.1	1962.9	2003.4	2041.1	2049.8
30°	2544.8	2382.7	2058.5	1835.5	1757.4	1792.1	1864.5	1934.0	1977.4	2017.9	2026.6
32.5°	2579.6	2400.1	2032.4	1780.5	1699.5	1740.0	1821.1	1899.2	1945.5	1983.2	1989.0
35°	2625.9	2423.2	2012.1	1725.5	1641.6	1673.4	1760.3	1847.1	1899.2	1928.2	1942.6
37.5°	2675.1	2455.1	1994.8	1676.3	1577.9	1606.8	1699.5	1792.1	1847.1	1876.1	1881.9
40°	2735.9	2498.5	1983.2	1630.0	1517.1	1540.2	1632.9	1734.2	1786.3	1806.6	1818.2
42.5°	2802.5	2544.8	1974.5	1583.7	1450.5	1473.6	1572.1	1670.5	1722.6	1740.0	1748.7
45°	2886.5	2605.6	1968.7	1534.4	1395.5	1415.7	1514.2	1612.6	1656.0	1679.2	1687.9
47.5°	2964.6	2666.4	1951.3	1476.5	1334.7	1363.6	1453.4	1540.2	1589.4	1603.9	1612.6
50°	3042.8	2718.6	1916.6	1412.8	1279.7	1305.7	1386.8	1450.5	1488.1	1505.5	1511.3
52.5°	3118.1	2756.2	1861.6	1346.2	1221.8	1239.1	1305.7	1366.5	1392.6	1398.4	1415.7
55°	3167.3	2776.5	1783.4	1268.1	1163.9	1169.6	1218.9	1273.9	1288.3	1291.2	1291.2
57.5°	3202.0	2764.9	1690.8	1189.9	1105.9	1105.9	1134.9	1178.3	1184.1	1187.0	1192.8
60°	3207.8	2724.3	1572.1	1117.5	1042.3	1033.6	1062.5	1088.6	1091.5	1097.3	1103.1
62.5°	3164.4	2634.6	1444.7	1048.0	981.5	961.2	987.2	1013.3	1027.8	1036.5	1042.3
65°	3031.2	2452.2	1299.9	978.6	923.6	888.8	920.7	964.1	993.0	995.9	995.9
67.5°	2753.3	2156.9	1146.5	906.2	854.1	822.2	862.8	909.1	943.8	958.3	955.4
70°	2333.5	1829.7	1004.6	830.9	784.6	764.3	807.7	859.9	888.8	900.4	906.2
72.5°	1879.0	1464.9	880.1	755.6	723.8	712.2	755.6	807.7	848.3	865.7	868.5
75°	1462.1	1152.3	775.9	677.5	651.4	654.3	700.6	752.7	796.2	804.9	778.8
77.5°	1134.9	917.8	677.5	584.8	570.3	590.6	636.9	691.9	718.0	726.7	709.3
80°	819.3	703.5	547.2	460.3	460.3	492.2	532.7	596.4	605.1	593.5	599.3
82.5°	388.0	341.6	269.2	222.9	208.5	231.6	246.1	266.4	289.5	295.3	280.8
85°	52.1	34.7	26.1	29.0	26.1	17.4	11.6	11.6	11.6	8.7	8.7
87.5°	8.7	8.7	5.8	5.8	5.8	5.8	5.8	5.8	2.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-2

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-722-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-722-U-5WQ-2

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/20/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-SA-40-722-U-5WQ-2**  
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

**Spectral Parameters**

CCT (K): 2253  
 CIE u': 0.2868  
 CIE v': 0.5332  
 Duv: -0.0014  
 CIE x: 0.4974  
 CIE y: 0.4110  
 CIE z: 0.0915  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 587  
 Purity: 72.69432  
 Rf: 76.9  
 Rg: 92.7

CRI (Ra):	70.6		
R1:	68.4	R9:	-36.0
R2:	88.7	R10:	78.2
R3:	85.4	R11:	61.0
R4:	63.5	R12:	74.2
R5:	69.0	R13:	72.8
R6:	88.9	R14:	92.2
R7:	68.5	R15:	58.0
R8:	32.0		



**Test Conditions**

Stabilization Time: 29M  
 Operation Time: 1H 29M  
 Sphere Temperature (°C): 24.1

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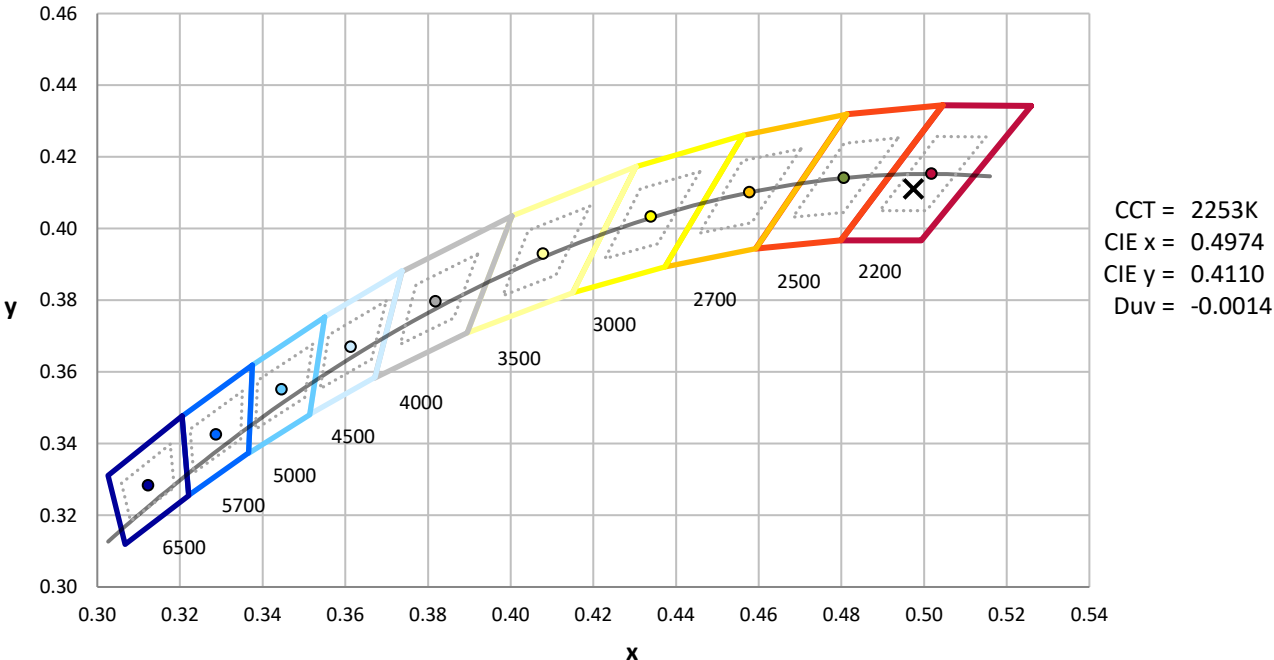
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	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 2200K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 0.96**

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 1.71**

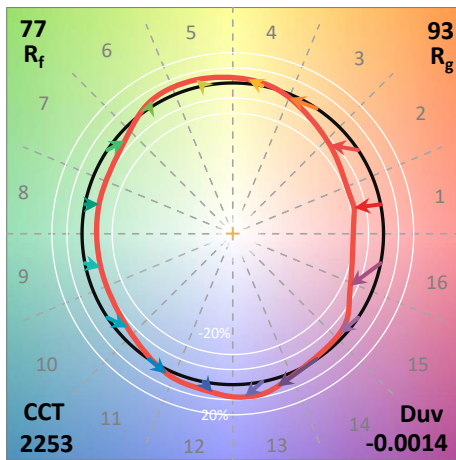
λ (nm)	Power W <sup>2</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>2</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>2</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>2</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>2</sup> /nm	Lumens (φ/nm)
360	0	NR	490	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

**Summary**

$R_f = 76.9$   
 $R_g = 92.7$   
 $CIE R_a = 70.6$   
 $R_g = -36.0$



**Color Vector Graphics**





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

CES01 = 87	CES26 = 76	CES51 = 88	CES76 = 78
CES02 = 65	CES27 = 94	CES52 = 85	CES77 = 75
CES03 = 32	CES28 = 93	CES53 = 80	CES78 = 79
CES04 = 72	CES29 = 81	CES54 = 86	CES79 = 82
CES05 = 51	CES30 = 91	CES55 = 83	CES80 = 81
CES06 = 52	CES31 = 83	CES56 = 77	CES81 = 51
CES07 = 44	CES32 = 75	CES57 = 75	CES82 = 92
CES08 = 42	CES33 = 88	CES58 = 76	CES83 = 88
CES09 = 29	CES34 = 88	CES59 = 84	CES84 = 90
CES10 = 79	CES35 = 94	CES60 = 91	CES85 = 65
CES11 = 62	CES36 = 90	CES61 = 82	CES86 = 48
CES12 = 68	CES37 = 97	CES62 = 91	CES87 = 76
CES13 = 45	CES38 = 98	CES63 = 86	CES88 = 78
CES14 = 75	CES39 = 97	CES64 = 70	CES89 = 61
CES15 = 72	CES40 = 94	CES65 = 71	CES90 = 80
CES16 = 48	CES41 = 95	CES66 = 71	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 70	CES92 = 51
CES18 = 57	CES43 = 80	CES68 = 74	CES93 = 68
CES19 = 74	CES44 = 99	CES69 = 84	CES94 = 44
CES20 = 68	CES45 = 83	CES70 = 72	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 75	CES96 = 75
CES22 = 81	CES47 = 88	CES72 = 89	CES97 = 76
CES23 = 92	CES48 = 73	CES73 = 68	CES98 = 72
CES24 = 92	CES49 = 82	CES74 = 85	CES99 = 63
CES25 = 73	CES50 = 87	CES75 = 80	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)