

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: P868979

Luminaire Tested: **EMM2-HSN-SA2A-727-U-T3-HSS**

Issue Date: 08/22/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P868979  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/22/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-SA2A-727-U-T3-HSS  
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 70W 70CRI 2700K  
FIXTURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD  
Light Source: (20) 2700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

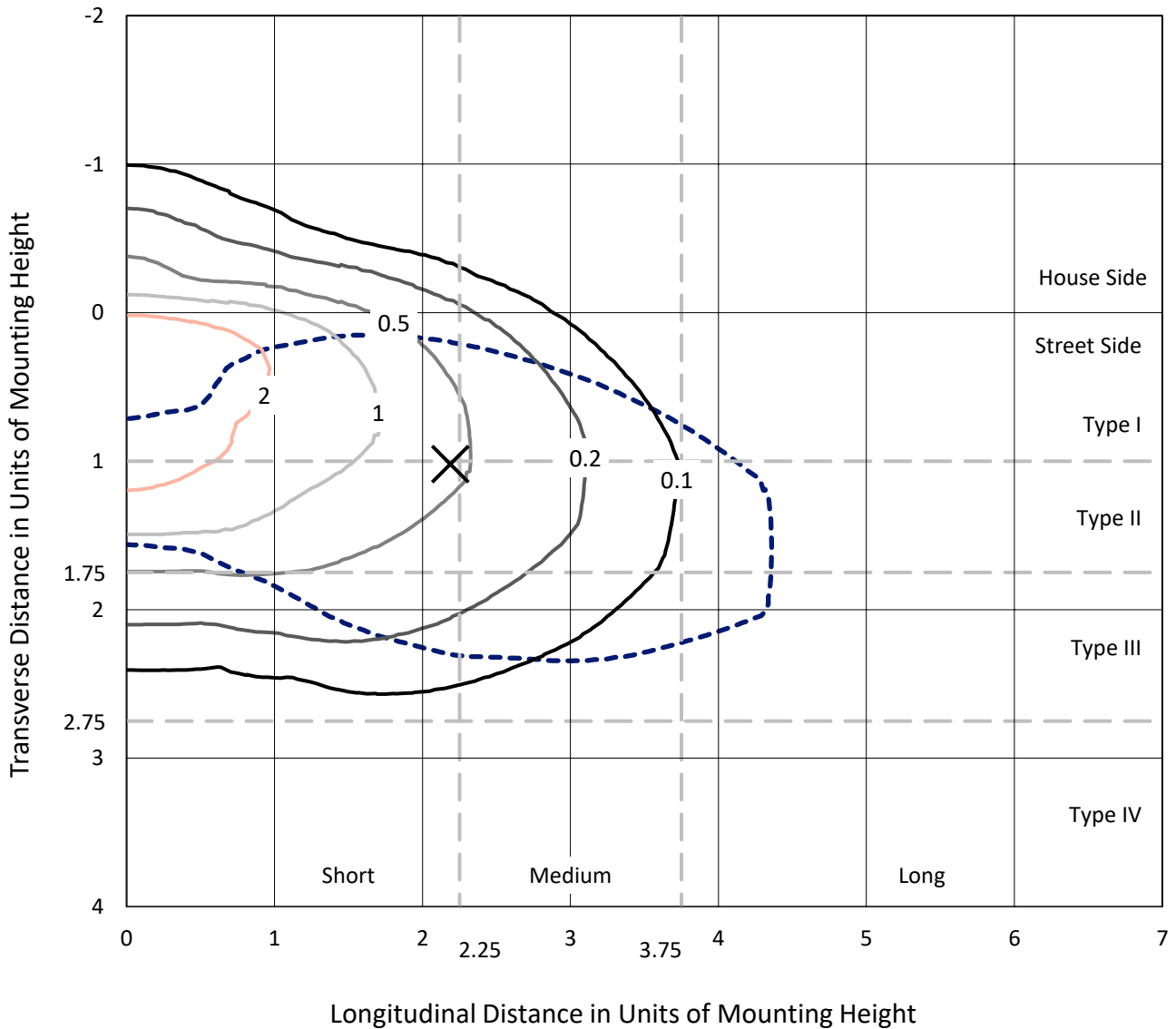
Lumens per Lamp: N/A  
Luminaire Lumens: 6024.1 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 0.33' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

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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### Iso-Footcandle Lines of Horizontal Illumination

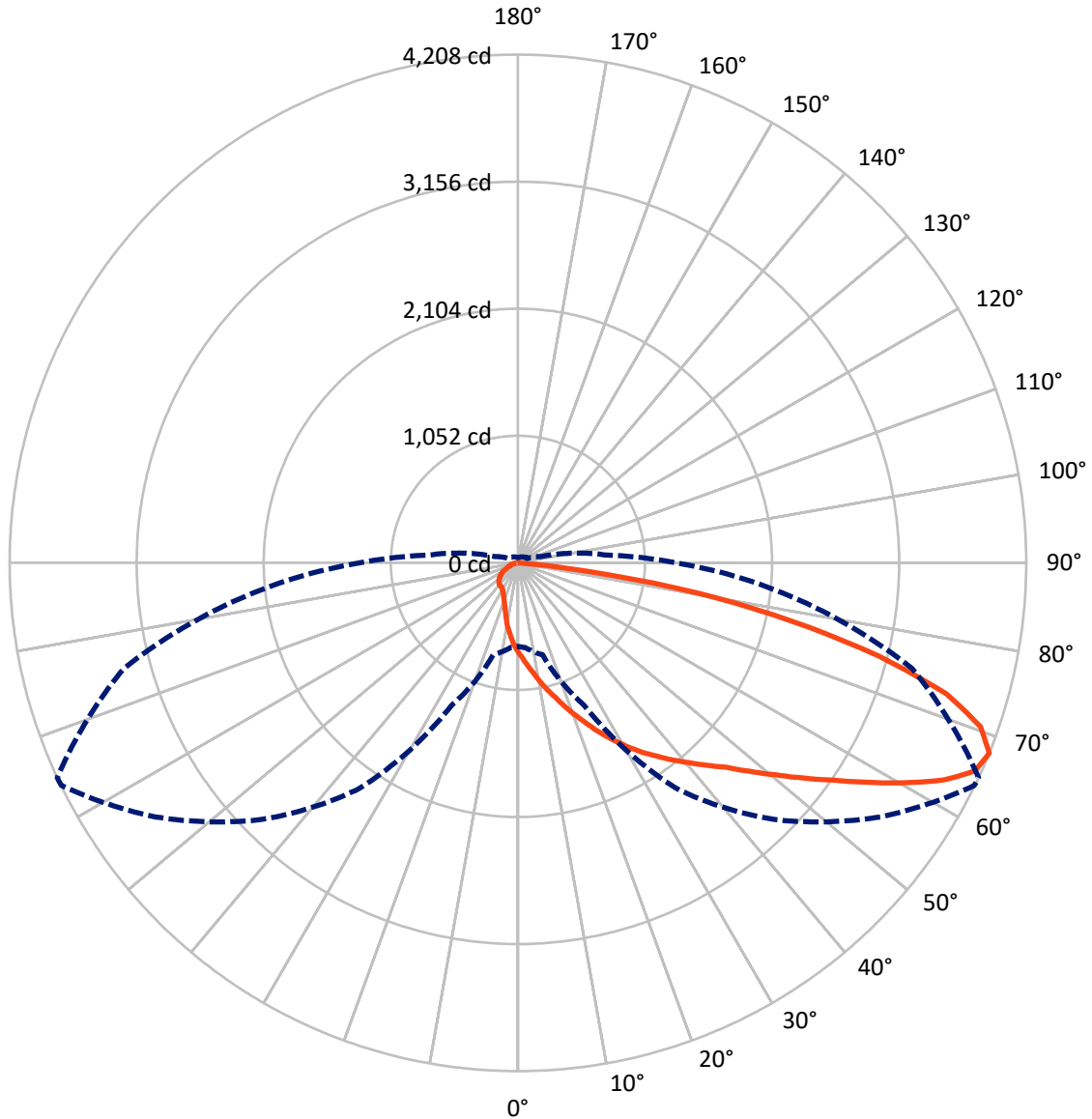
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 3.4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	586.3	0.0	586.3
	% Fixture	9.7	0.0	9.7
<b>Street Side</b>	Lumens	5437.7	0.0	5437.7
	% Fixture	90.3	0.0	90.3
<b>Total</b>	Lumens	6024.1	0.0	6024.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.8	1.2
10°-20°	241.7	4.0
20°-30°	439.9	7.3
30°-40°	680.9	11.3
40°-50°	1029.2	17.1
50°-60°	1339.0	22.2
60°-70°	1320.9	21.9
70°-80°	804.0	13.3
80°-90°	95.6	1.6
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°	6024.1	100.0
0°-180°	6024.1	100.0



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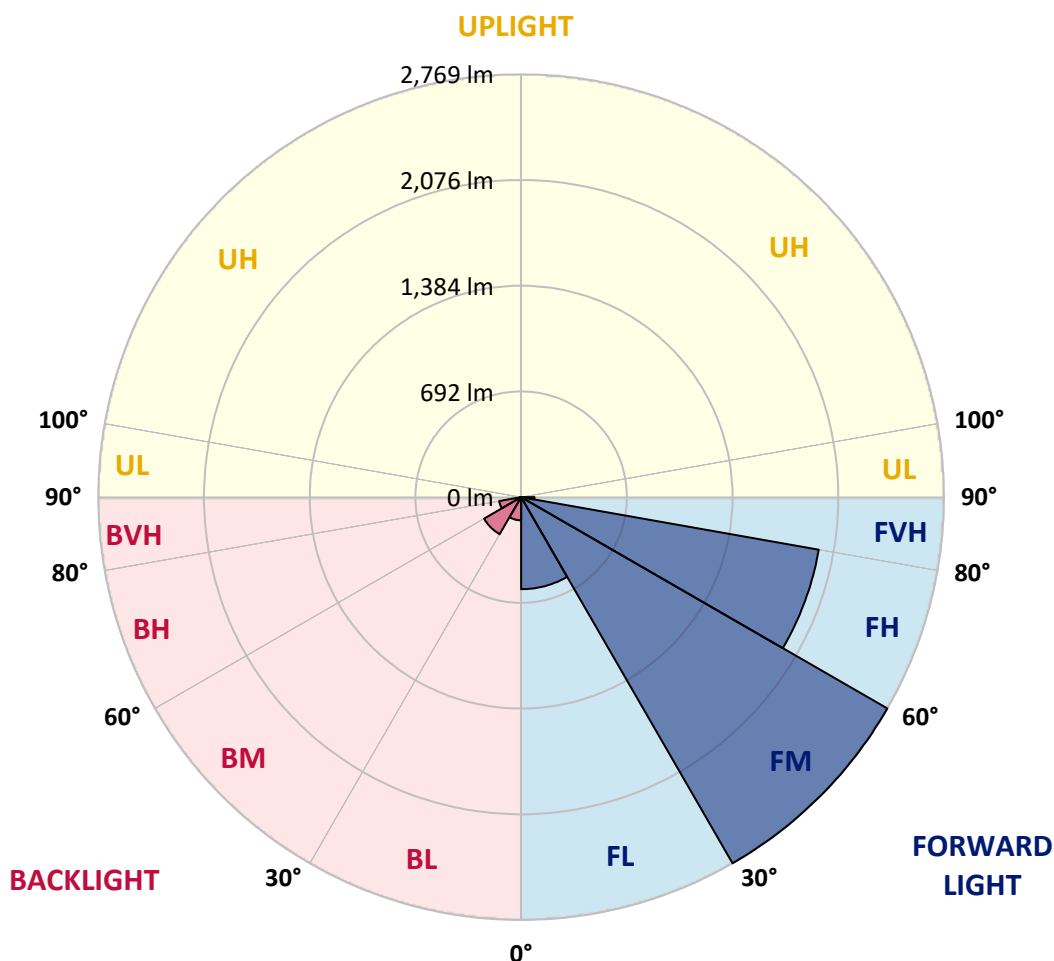
CATALOG NUMBER: EMM2-HSN-SA2A-727-U-T3-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	602.8	10.0			
FM (30°-60°)	2768.7	46.0			
FH (60°-80°)	1978.9	32.9			G2/5000
FVH (80°-90°)	87.4	1.5			G1/100
BL (0°-30°)	151.7	2.5	B1/500		
BM (30°-60°)	280.4	4.7	B1/1000		
BH (60°-80°)	146.0	2.4	B1/500		G1/500
BVH (80°-90°)	8.2	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Short





REPORT NUMBER: P868979

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	64°	65°	75°	85°
0°	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4
2.5°	869.9	863.0	868.2	856.1	842.4	832.1	811.4	794.2	792.5	775.3	756.4
5°	1036.6	1014.3	1016.0	991.9	962.7	931.8	899.1	856.1	856.1	814.9	771.9
7.5°	1186.2	1182.8	1167.3	1129.5	1095.1	1046.9	986.8	931.8	919.7	856.1	789.1
10°	1330.6	1325.4	1311.7	1282.5	1224.0	1170.7	1095.1	1012.6	997.1	906.0	809.7
12.5°	1445.8	1447.5	1432.0	1408.0	1356.4	1292.8	1193.1	1089.9	1076.2	954.1	830.3
15°	1547.2	1545.5	1542.1	1521.4	1471.6	1413.1	1296.2	1175.9	1153.5	1005.7	851.0
17.5°	1624.6	1621.1	1614.3	1597.1	1573.0	1516.3	1404.5	1267.0	1248.1	1065.9	875.0
20°	1646.9	1645.2	1645.2	1657.2	1646.9	1612.5	1512.8	1361.5	1340.9	1129.5	907.7
22.5°	1688.2	1686.5	1684.7	1696.8	1703.6	1700.2	1614.3	1457.8	1438.9	1203.4	949.0
25°	1741.5	1738.0	1732.9	1744.9	1753.5	1774.1	1715.7	1571.3	1548.9	1289.3	990.2
27.5°	1812.0	1815.4	1808.5	1806.8	1806.8	1818.8	1805.1	1672.7	1652.1	1371.9	1038.3
30°	1904.8	1909.9	1897.9	1889.3	1873.8	1872.1	1875.6	1786.2	1756.9	1461.3	1088.2
32.5°	1995.9	2001.1	1994.2	1982.1	1942.6	1927.1	1940.9	1882.4	1863.5	1559.2	1151.8
35°	2069.8	2081.9	2081.9	2057.8	2002.8	1994.2	2016.5	1977.0	1963.2	1674.4	1227.5
37.5°	2169.5	2176.4	2169.5	2124.8	2056.1	2066.4	2100.8	2076.7	2068.1	1798.2	1316.8
40°	2382.7	2391.3	2346.6	2240.0	2130.0	2142.0	2202.2	2188.4	2174.7	1920.3	1399.4
42.5°	2680.1	2659.5	2650.9	2413.6	2243.5	2236.6	2312.2	2293.3	2291.6	2044.0	1475.0
45°	2876.1	2883.0	2840.0	2614.8	2482.4	2353.5	2434.3	2427.4	2413.6	2169.5	1566.1
47.5°	3011.9	2996.4	2889.8	2781.5	2807.3	2506.5	2570.1	2587.3	2578.7	2312.2	1677.9
50°	3068.6	3053.2	2982.7	2910.5	2941.4	2681.8	2709.3	2766.1	2757.5	2456.6	1772.4
52.5°	2998.1	2979.2	2984.4	3003.3	2987.8	2819.4	2881.2	2970.6	2960.3	2625.1	1882.4
55°	2549.5	2599.3	2791.9	2984.4	2979.2	2924.2	3065.2	3195.8	3175.2	2800.4	1977.0
57.5°	2056.1	2083.6	2327.7	2848.6	2951.7	3011.9	3274.9	3436.5	3429.6	2975.8	2062.9
60°	1634.9	1664.1	1849.8	2566.6	2888.1	3103.0	3489.8	3703.0	3696.1	3152.9	2124.8
62.5°	1299.7	1299.7	1464.7	2160.9	2766.1	3156.3	3660.0	3971.2	3959.1	3295.6	2140.3
65°	935.2	947.2	1071.0	1738.0	2568.4	3142.6	3742.5	4162.0	4155.1	3376.4	2107.6
67.5°	691.1	704.8	787.4	1303.1	2276.1	3005.0	3666.9	4205.0	4208.4	3378.1	2001.1
70°	539.8	543.2	605.1	906.0	1865.2	2699.0	3383.2	4062.3	4062.3	3293.8	1842.9
72.5°	410.9	414.3	467.6	617.2	1373.6	2231.4	2958.6	3684.1	3709.9	3070.3	1609.1
75°	318.0	324.9	361.0	443.5	861.3	1586.7	2430.8	3017.1	3087.5	2637.1	1325.4
77.5°	245.8	252.7	281.9	324.9	502.0	978.2	1708.8	2255.5	2319.1	2076.7	1022.9
80°	197.7	201.1	220.0	244.1	304.3	503.7	1043.5	1481.9	1500.8	1411.4	677.3
82.5°	91.1	98.0	118.6	134.1	151.3	233.8	445.3	548.4	572.5	560.4	278.5
85°	10.3	10.3	12.0	13.8	15.5	24.1	30.9	27.5	27.5	32.7	29.2
87.5°	0.0	0.0	0.0	1.7	3.4	3.4	5.2	5.2	5.2	5.2	5.2
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: EMM2-HSN-SA2A-727-U-T3-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4	744.4
2.5°	746.1	734.1	711.7	692.8	675.6	658.4	649.8	629.2	624.0	627.5	615.4
5°	749.5	725.5	679.1	636.1	600.0	565.6	536.4	505.4	498.5	488.2	483.1
7.5°	754.7	718.6	646.4	579.3	524.3	474.5	438.4	414.3	395.4	390.2	388.5
10°	761.6	710.0	610.3	526.1	450.4	398.8	366.2	349.0	342.1	336.9	338.7
12.5°	766.7	701.4	575.9	465.9	392.0	345.5	330.1	316.3	312.9	311.2	311.2
15°	773.6	692.8	534.6	412.6	342.1	314.6	299.1	294.0	294.0	292.3	292.3
17.5°	782.2	685.9	500.3	371.3	312.9	287.1	280.2	273.3	273.3	273.3	271.6
20°	799.4	682.5	469.3	336.9	287.1	269.9	259.6	254.4	252.7	251.0	251.0
22.5°	816.6	682.5	434.9	311.2	269.9	251.0	240.7	235.5	233.8	233.8	233.8
25°	840.6	680.8	407.4	288.8	254.4	232.1	221.8	216.6	213.2	213.2	211.5
27.5°	868.2	680.8	383.4	271.6	237.2	214.9	202.9	197.7	192.5	192.5	190.8
30°	895.7	684.2	362.7	257.9	220.0	199.4	183.9	177.1	173.6	171.9	171.9
32.5°	931.8	694.5	349.0	247.6	204.6	183.9	168.5	161.6	158.2	156.4	156.4
35°	986.8	720.3	350.7	242.4	194.3	170.2	154.7	146.1	144.4	144.4	142.7
37.5°	1045.2	744.4	355.9	239.0	183.9	159.9	144.4	135.8	134.1	134.1	134.1
40°	1095.1	765.0	362.7	237.2	175.4	149.6	135.8	128.9	125.5	125.5	125.5
42.5°	1144.9	777.0	364.5	232.1	170.2	141.0	128.9	122.1	118.6	120.3	120.3
45°	1194.8	785.6	359.3	225.2	165.0	134.1	122.1	115.2	111.7	111.7	111.7
47.5°	1255.0	804.5	350.7	214.9	161.6	128.9	115.2	108.3	106.6	106.6	106.6
50°	1315.1	820.0	343.8	202.9	153.0	122.1	110.0	101.4	99.7	99.7	99.7
52.5°	1365.0	826.9	335.2	187.4	144.4	115.2	103.1	94.6	91.1	91.1	91.1
55°	1402.8	828.6	323.2	175.4	132.4	108.3	96.3	87.7	84.2	82.5	82.5
57.5°	1433.7	826.9	311.2	163.3	122.1	99.7	87.7	80.8	75.6	73.9	73.9
60°	1450.9	821.7	294.0	147.8	108.3	91.1	80.8	72.2	68.8	67.0	67.0
62.5°	1440.6	808.0	269.9	123.8	98.0	82.5	73.9	67.0	61.9	60.2	60.2
65°	1392.5	780.5	239.0	101.4	87.7	73.9	67.0	60.2	53.3	51.6	51.6
67.5°	1308.3	734.1	197.7	86.0	80.8	67.0	60.2	53.3	48.1	44.7	44.7
70°	1191.4	672.2	154.7	73.9	72.2	61.9	55.0	48.1	43.0	39.5	39.5
72.5°	1024.6	570.7	115.2	63.6	63.6	56.7	49.9	44.7	39.5	36.1	36.1
75°	828.6	431.5	87.7	58.5	56.7	51.6	44.7	39.5	36.1	32.7	32.7
77.5°	605.1	287.1	72.2	53.3	53.3	46.4	41.3	36.1	32.7	30.9	30.9
80°	367.9	165.0	51.6	41.3	41.3	39.5	34.4	30.9	29.2	25.8	24.1
82.5°	149.6	63.6	27.5	20.6	20.6	18.9	12.0	10.3	10.3	10.3	8.6
85°	15.5	10.3	6.9	5.2	5.2	5.2	3.4	3.4	3.4	3.4	3.4
87.5°	5.2	5.2	3.4	3.4	3.4	3.4	1.7	1.7	1.7	1.7	1.7
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: SP1-2407-157-3

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-727-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-727-U-5WQ-2

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 08/20/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-SA-40-727-U-5WQ-2**  
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

**Spectral Parameters**

CCT (K): 2747  
 CIE u': 0.2606  
 CIE v': 0.5257  
 Duv: -0.0005  
 CIE x: 0.4552  
 CIE y: 0.4082  
 CIE z: 0.1366  
 Peak Wavelength (nm): 597  
 Dominant Wavelength (nm): 584  
 Purity: 59.16856  
 Rf: 75.5  
 Rg: 93.6

CRI (Ra):	71.7		
R1:	68.1	R9:	-35.3
R2:	83.9	R10:	64.2
R3:	94.7	R11:	61.7
R4:	66.3	R12:	53.9
R5:	67.4	R13:	71.2
R6:	78.7	R14:	97.6
R7:	75.0	R15:	59.3
R8:	39.4		



**Test Conditions**

Stabilization Time: 22M  
 Operation Time: 1H 22M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-3

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 2700K 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	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

REPORT NUMBER: SP1-2407-157-3

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.13**

$\lambda$ (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	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

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**Melanopic Flux vs. Wavelength**



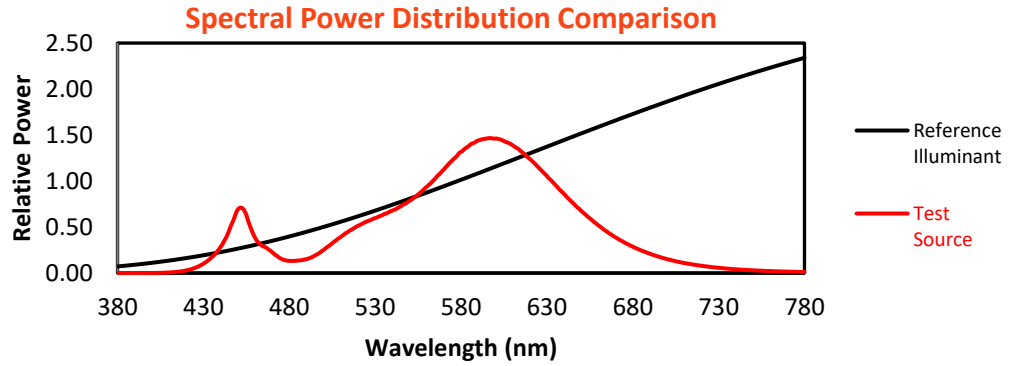
**Melanopic Lumens: NR**

**M/P: 2.04**

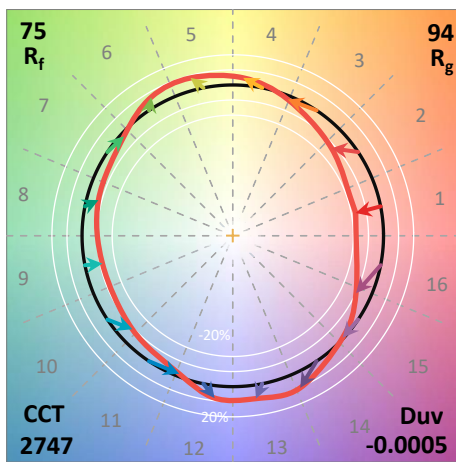
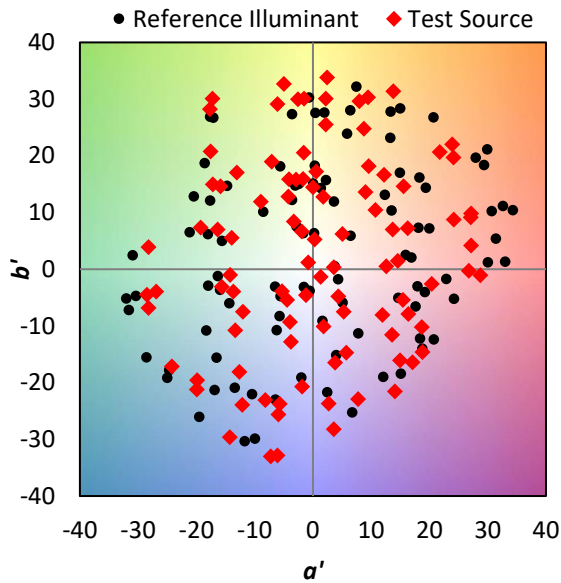
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

**Summary**

$R_f = 75.5$   
 $R_g = 93.6$   
 $CIE R_a = 71.7$   
 $R_g = -35.3$



**Color Vector Graphics**



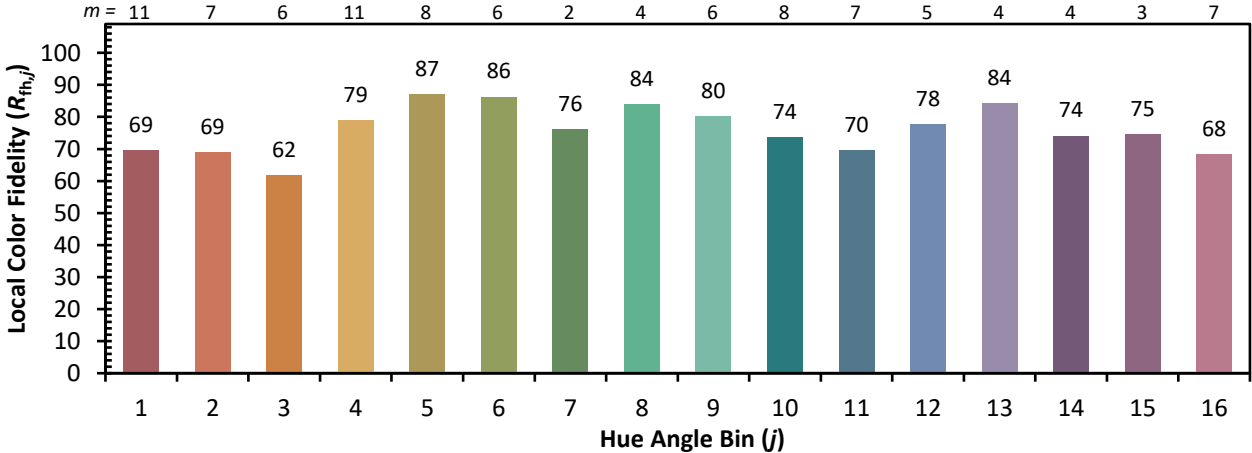


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 68	CES51 = 87	CES76 = 63
CES02 = 63	CES27 = 90	CES52 = 85	CES77 = 79
CES03 = 31	CES28 = 87	CES53 = 78	CES78 = 66
CES04 = 71	CES29 = 71	CES54 = 86	CES79 = 87
CES05 = 50	CES30 = 85	CES55 = 84	CES80 = 85
CES06 = 52	CES31 = 74	CES56 = 75	CES81 = 67
CES07 = 42	CES32 = 66	CES57 = 75	CES82 = 93
CES08 = 41	CES33 = 80	CES58 = 76	CES83 = 91
CES09 = 29	CES34 = 79	CES59 = 85	CES84 = 89
CES10 = 77	CES35 = 89	CES60 = 90	CES85 = 72
CES11 = 60	CES36 = 93	CES61 = 81	CES86 = 59
CES12 = 66	CES37 = 88	CES62 = 91	CES87 = 77
CES13 = 43	CES38 = 93	CES63 = 77	CES88 = 79
CES14 = 74	CES39 = 97	CES64 = 67	CES89 = 65
CES15 = 72	CES40 = 93	CES65 = 66	CES90 = 80
CES16 = 48	CES41 = 93	CES66 = 63	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 61	CES92 = 55
CES18 = 57	CES43 = 78	CES68 = 68	CES93 = 72
CES19 = 73	CES44 = 99	CES69 = 78	CES94 = 48
CES20 = 67	CES45 = 85	CES70 = 63	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 61	CES96 = 76
CES22 = 80	CES47 = 86	CES72 = 86	CES97 = 81
CES23 = 92	CES48 = 74	CES73 = 56	CES98 = 76
CES24 = 91	CES49 = 79	CES74 = 93	CES99 = 64
CES25 = 73	CES50 = 86	CES75 = 66	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)