

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: P871222

Luminaire Tested: **EMM2-HSN-SA3B-840-U-T3-HSS**

Issue Date: 09/05/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P871222  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 09/05/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-SA3B-840-U-T3-HSS  
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 150W 80CRI 4000K  
FIXTURE w/ TYPE III DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD  
Light Source: (30) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

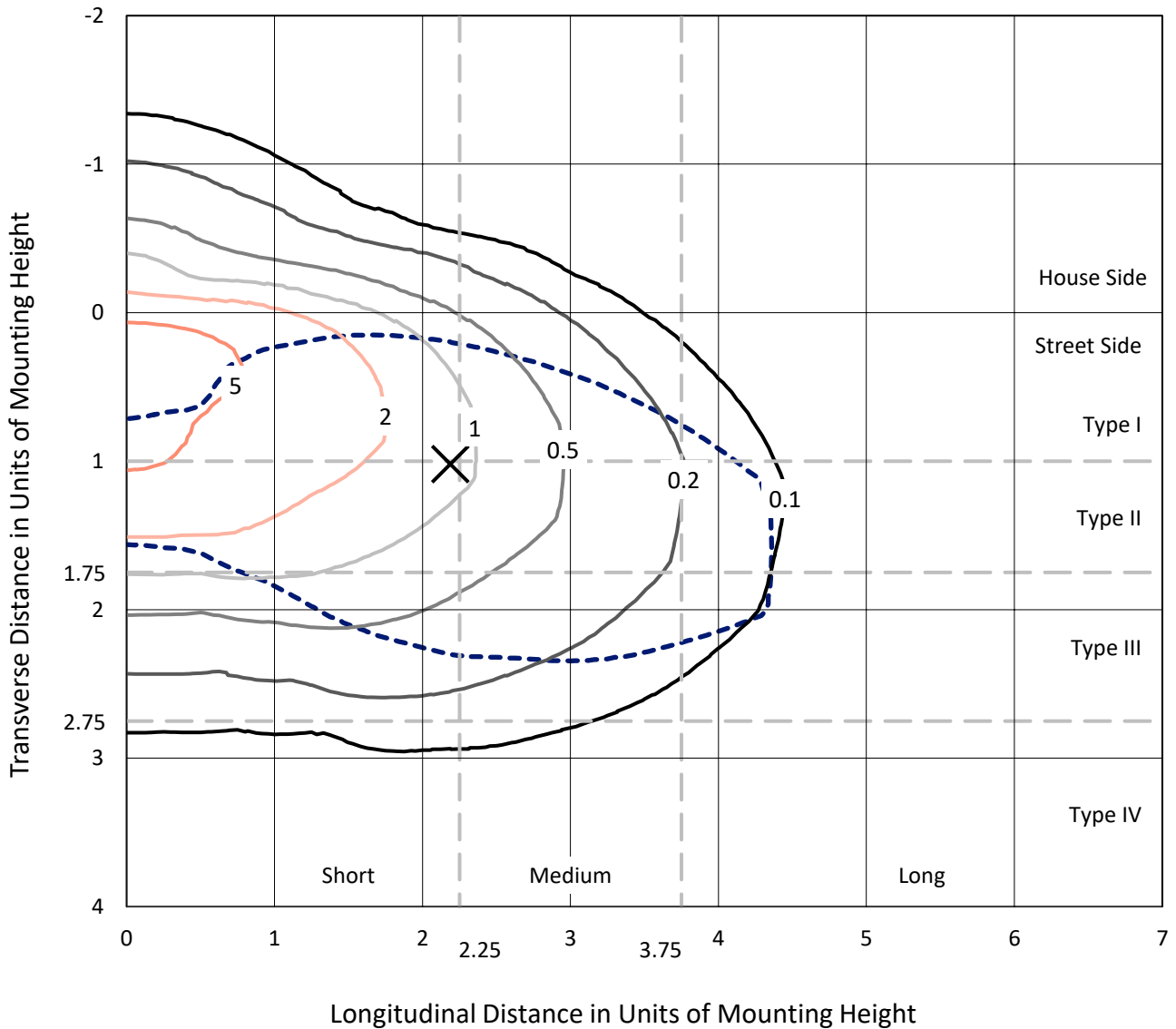
Lumens per Lamp: N/A  
Luminaire Lumens: 12651.5 lumens  
Efficiency: N/A  
Efficacy: 94.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

Input Watts (W): 134  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 6.70%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

REPORT NUMBER: P871222  
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### Iso-Footcandle Lines of Horizontal Illumination

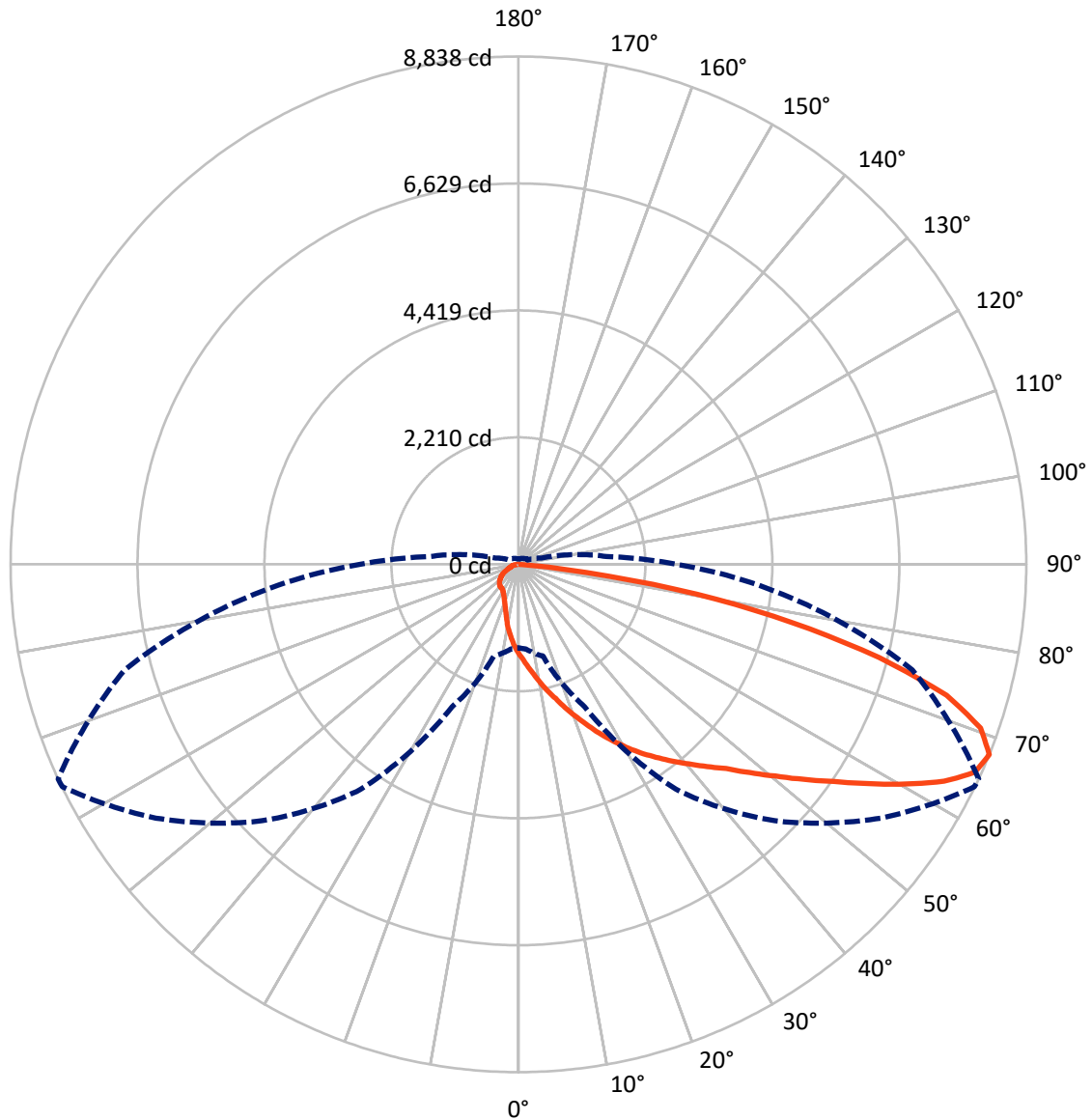
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.2 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	1231.4	0.0	1231.4
	% Fixture	9.7	0.0	9.7
<b>Street Side</b>	Lumens	11420.1	0.0	11420.1
	% Fixture	90.3	0.0	90.3
<b>Total</b>	Lumens	12651.5	0.0	12651.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.0	1.2
10°-20°	507.7	4.0
20°-30°	923.9	7.3
30°-40°	1429.9	11.3
40°-50°	2161.6	17.1
50°-60°	2812.0	22.2
60°-70°	2774.1	21.9
70°-80°	1688.6	13.3
80°-90°	200.7	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°	12651.5	100.0
0°-180°	12651.5	100.0



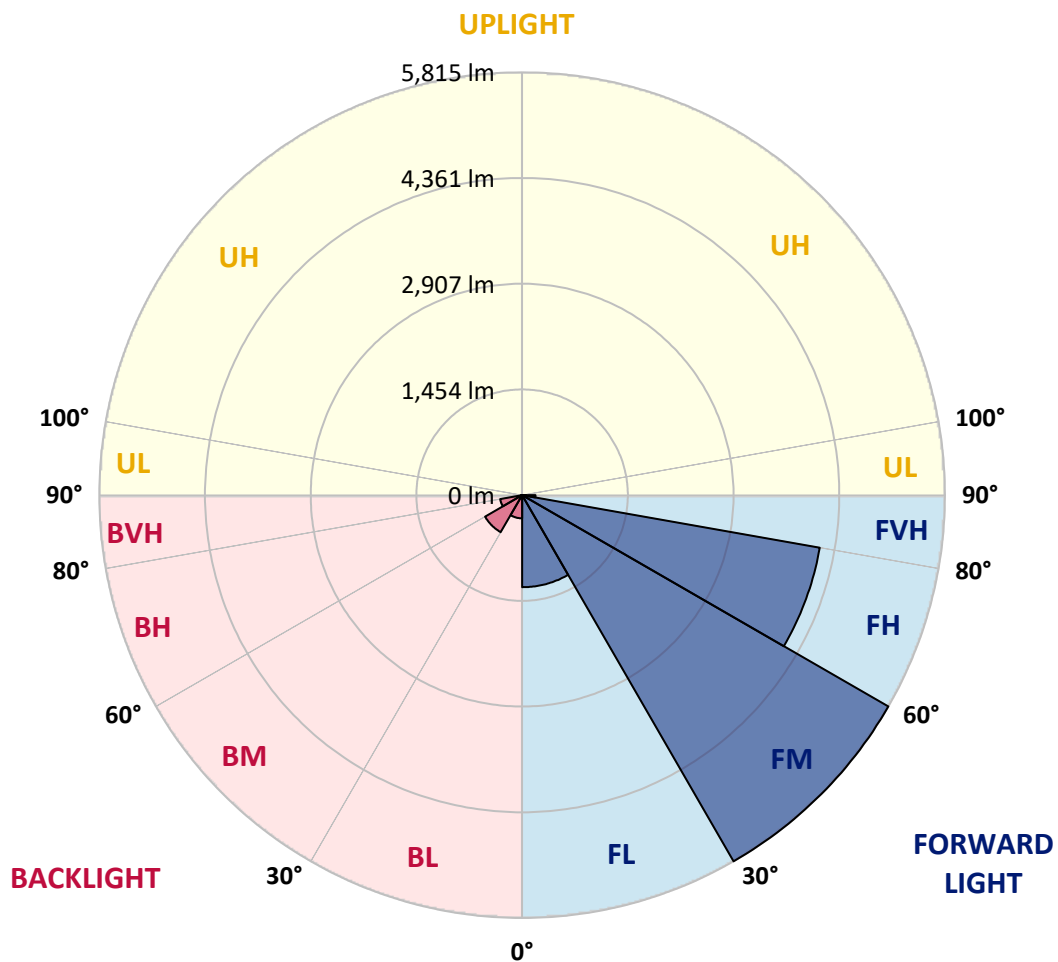
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1265.9	10.0			
FM (30°-60°)	5814.6	46.0			
FH (60°-80°)	4156.1	32.9			G2/5000
FVH (80°-90°)	183.5	1.5			G2/225
BL (0°-30°)	318.6	2.5	B1/500		
BM (30°-60°)	588.9	4.7	B1/1000		
BH (60°-80°)	306.6	2.4	B1/500		G1/500
BVH (80°-90°)	17.2	0.1			G1/100
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: P871222

CATALOG NUMBER: EMM2-HSN-SA3B-840-U-T3-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	64°	65°	75°	85°
0°	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3
2.5°	1826.9	1812.4	1823.3	1798.0	1769.1	1747.4	1704.1	1668.0	1664.4	1628.3	1588.6
5°	2177.1	2130.1	2133.8	2083.2	2021.8	1956.8	1888.2	1798.0	1798.0	1711.3	1621.1
7.5°	2491.2	2484.0	2451.5	2372.0	2299.8	2198.7	2072.4	1956.8	1931.6	1798.0	1657.2
10°	2794.5	2783.6	2754.7	2693.4	2570.6	2458.7	2299.8	2126.5	2094.0	1902.7	1700.5
12.5°	3036.4	3040.0	3007.5	2956.9	2848.6	2715.0	2505.6	2289.0	2260.1	2003.8	1743.8
15°	3249.4	3245.8	3238.5	3195.2	3090.5	2967.8	2722.3	2469.5	2422.6	2112.1	1787.2
17.5°	3411.8	3404.6	3390.2	3354.1	3303.5	3184.4	2949.7	2660.9	2621.2	2238.5	1837.7
20°	3458.8	3455.2	3455.2	3480.4	3458.8	3386.6	3177.2	2859.4	2816.1	2372.0	1906.3
22.5°	3545.4	3541.8	3538.2	3563.5	3577.9	3570.7	3390.2	3061.6	3021.9	2527.3	1992.9
25°	3657.3	3650.1	3639.3	3664.6	3682.6	3725.9	3603.2	3299.9	3253.0	2707.8	2079.6
27.5°	3805.4	3812.6	3798.2	3794.5	3794.5	3819.8	3790.9	3512.9	3469.6	2881.1	2180.7
30°	4000.3	4011.2	3985.9	3967.8	3935.4	3931.7	3939.0	3751.2	3689.8	3068.9	2285.4
32.5°	4191.7	4202.5	4188.1	4162.8	4079.8	4047.3	4076.2	3953.4	3913.7	3274.6	2419.0
35°	4346.9	4372.2	4372.2	4321.7	4206.1	4188.1	4235.0	4152.0	4123.1	3516.5	2577.8
37.5°	4556.3	4570.8	4556.3	4462.5	4318.1	4339.7	4411.9	4361.4	4343.3	3776.5	2765.6
40°	5004.0	5022.1	4928.2	4704.4	4473.3	4498.6	4624.9	4596.1	4567.2	4032.8	2938.9
42.5°	5628.6	5585.3	5567.3	5069.0	4711.6	4697.1	4856.0	4816.3	4812.7	4292.8	3097.7
45°	6040.2	6054.7	5964.4	5491.4	5213.4	4942.7	5112.3	5097.9	5069.0	4556.3	3289.1
47.5°	6325.4	6292.9	6069.1	5841.6	5895.8	5264.0	5397.6	5433.7	5415.6	4856.0	3523.8
50°	6444.6	6412.1	6264.1	6112.4	6177.4	5632.2	5690.0	5809.2	5791.1	5159.3	3722.3
52.5°	6296.6	6256.8	6267.7	6307.4	6274.9	5921.1	6051.1	6238.8	6217.1	5513.1	3953.4
55°	5354.2	5458.9	5863.3	6267.7	6256.8	6141.3	6437.4	6711.8	6668.4	5881.4	4152.0
57.5°	4318.1	4375.8	4888.5	5982.5	6199.1	6325.4	6877.8	7217.2	7202.8	6249.6	4332.5
60°	3433.5	3494.9	3884.8	5390.3	6065.5	6516.8	7329.1	7776.8	7762.4	6621.5	4462.5
62.5°	2729.5	2729.5	3076.1	4538.3	5809.2	6628.7	7686.6	8340.1	8314.8	6921.2	4495.0
65°	1964.1	1989.3	2249.3	3650.1	5394.0	6599.8	7859.9	8740.8	8726.4	7090.9	4426.4
67.5°	1451.4	1480.3	1653.6	2736.7	4780.2	6311.0	7701.0	8831.1	8838.3	7094.5	4202.5
70°	1133.7	1140.9	1270.9	1902.7	3917.3	5668.3	7105.3	8531.4	8531.4	6917.6	3870.4
72.5°	862.9	870.1	982.0	1296.1	2884.7	4686.3	6213.5	7737.1	7791.3	6448.2	3379.3
75°	667.9	682.4	758.2	931.5	1808.8	3332.4	5105.1	6336.3	6484.3	5538.4	2783.6
77.5°	516.3	530.7	592.1	682.4	1054.2	2054.3	3588.8	4736.9	4870.4	4361.4	2148.2
80°	415.2	422.4	462.1	512.7	639.0	1057.9	2191.5	3112.2	3151.9	2964.1	1422.5
82.5°	191.4	205.8	249.1	281.6	317.7	491.0	935.1	1151.7	1202.3	1177.0	584.9
85°	21.7	21.7	25.3	28.9	32.5	50.5	65.0	57.8	57.8	68.6	61.4
87.5°	0.0	0.0	0.0	3.6	7.2	7.2	10.8	10.8	10.8	10.8	10.8
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3	1563.3
2.5°	1566.9	1541.6	1494.7	1455.0	1418.9	1382.8	1364.7	1321.4	1310.6	1317.8	1292.5
5°	1574.1	1523.6	1426.1	1335.9	1260.0	1187.8	1126.4	1061.5	1047.0	1025.4	1014.5
7.5°	1585.0	1509.2	1357.5	1216.7	1101.2	996.5	920.7	870.1	830.4	819.6	816.0
10°	1599.4	1491.1	1281.7	1104.8	945.9	837.6	769.0	732.9	718.5	707.6	711.3
12.5°	1610.2	1473.0	1209.5	978.4	823.2	725.7	693.2	664.3	657.1	653.5	653.5
15°	1624.7	1455.0	1122.8	866.5	718.5	660.7	628.2	617.4	617.4	613.8	613.8
17.5°	1642.7	1440.6	1050.6	779.8	657.1	602.9	588.5	574.1	574.1	574.1	570.4
20°	1678.8	1433.3	985.6	707.6	602.9	566.8	545.2	534.3	530.7	527.1	527.1
22.5°	1714.9	1433.3	913.4	653.5	566.8	527.1	505.5	494.6	491.0	491.0	491.0
25°	1765.5	1429.7	855.7	606.5	534.3	487.4	465.7	454.9	447.7	447.7	444.1
27.5°	1823.3	1429.7	805.1	570.4	498.2	451.3	426.0	415.2	404.4	404.4	400.8
30°	1881.0	1436.9	761.8	541.6	462.1	418.8	386.3	371.9	364.7	361.0	361.0
32.5°	1956.8	1458.6	732.9	519.9	429.6	386.3	353.8	339.4	332.2	328.5	328.5
35°	2072.4	1512.8	736.5	509.1	408.0	357.4	324.9	306.9	303.3	303.3	299.7
37.5°	2195.1	1563.3	747.4	501.8	386.3	335.8	303.3	285.2	281.6	281.6	281.6
40°	2299.8	1606.6	761.8	498.2	368.3	314.1	285.2	270.8	263.6	263.6	263.6
42.5°	2404.5	1631.9	765.4	487.4	357.4	296.1	270.8	256.3	249.1	252.7	252.7
45°	2509.2	1650.0	754.6	473.0	346.6	281.6	256.3	241.9	234.7	234.7	234.7
47.5°	2635.6	1689.7	736.5	451.3	339.4	270.8	241.9	227.5	223.8	223.8	223.8
50°	2762.0	1722.2	722.1	426.0	321.3	256.3	231.1	213.0	209.4	209.4	209.4
52.5°	2866.7	1736.6	704.0	393.5	303.3	241.9	216.6	198.6	191.4	191.4	191.4
55°	2946.1	1740.2	678.8	368.3	278.0	227.5	202.2	184.1	176.9	173.3	173.3
57.5°	3011.1	1736.6	653.5	343.0	256.3	209.4	184.1	169.7	158.9	155.2	155.2
60°	3047.2	1725.8	617.4	310.5	227.5	191.4	169.7	151.6	144.4	140.8	140.8
62.5°	3025.5	1696.9	566.8	259.9	205.8	173.3	155.2	140.8	130.0	126.4	126.4
65°	2924.4	1639.1	501.8	213.0	184.1	155.2	140.8	126.4	111.9	108.3	108.3
67.5°	2747.5	1541.6	415.2	180.5	169.7	140.8	126.4	111.9	101.1	93.9	93.9
70°	2502.0	1411.7	324.9	155.2	151.6	130.0	115.5	101.1	90.3	83.0	83.0
72.5°	2151.8	1198.7	241.9	133.6	133.6	119.1	104.7	93.9	83.0	75.8	75.8
75°	1740.2	906.2	184.1	122.8	119.1	108.3	93.9	83.0	75.8	68.6	68.6
77.5°	1270.9	602.9	151.6	111.9	111.9	97.5	86.6	75.8	68.6	65.0	65.0
80°	772.6	346.6	108.3	86.6	86.6	83.0	72.2	65.0	61.4	54.2	50.5
82.5°	314.1	133.6	57.8	43.3	43.3	39.7	25.3	21.7	21.7	21.7	18.1
85°	32.5	21.7	14.4	10.8	10.8	10.8	7.2	7.2	7.2	7.2	7.2
87.5°	10.8	10.8	7.2	7.2	7.2	7.2	3.6	3.6	3.6	3.6	3.6
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  
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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



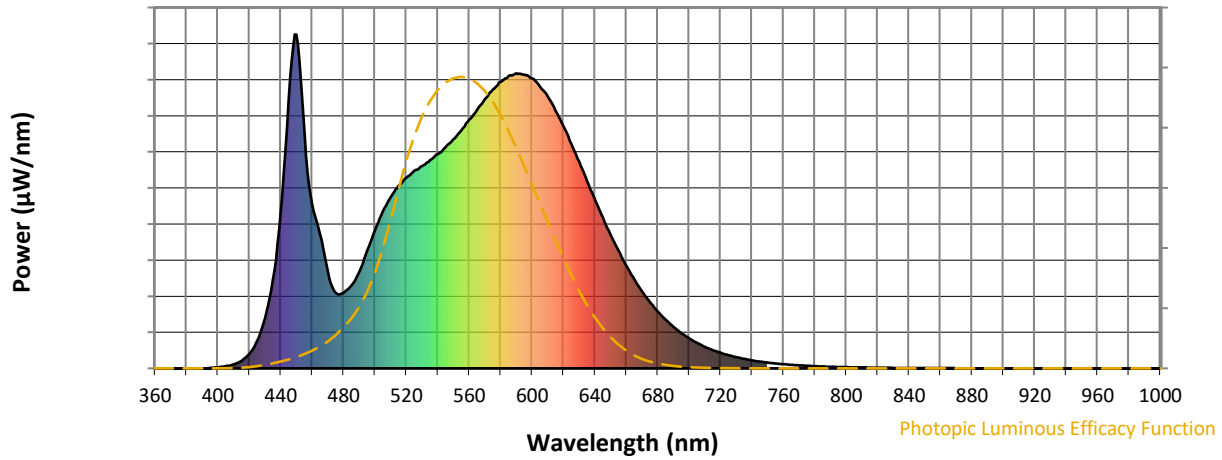
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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**



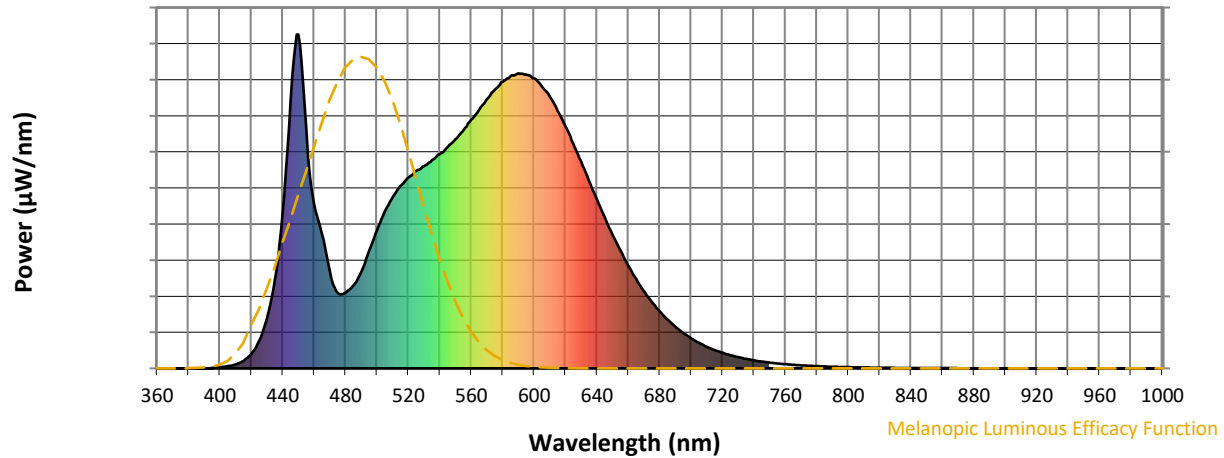
**Scotopic Lumens: NR**

**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



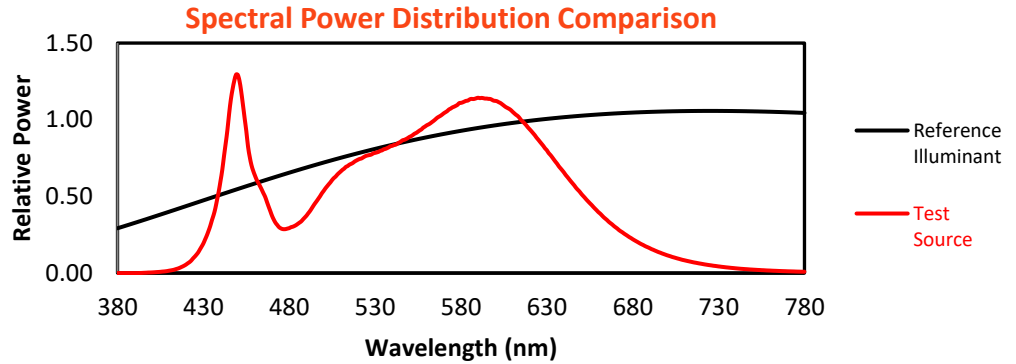
Melanopic Lumens: NR

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**



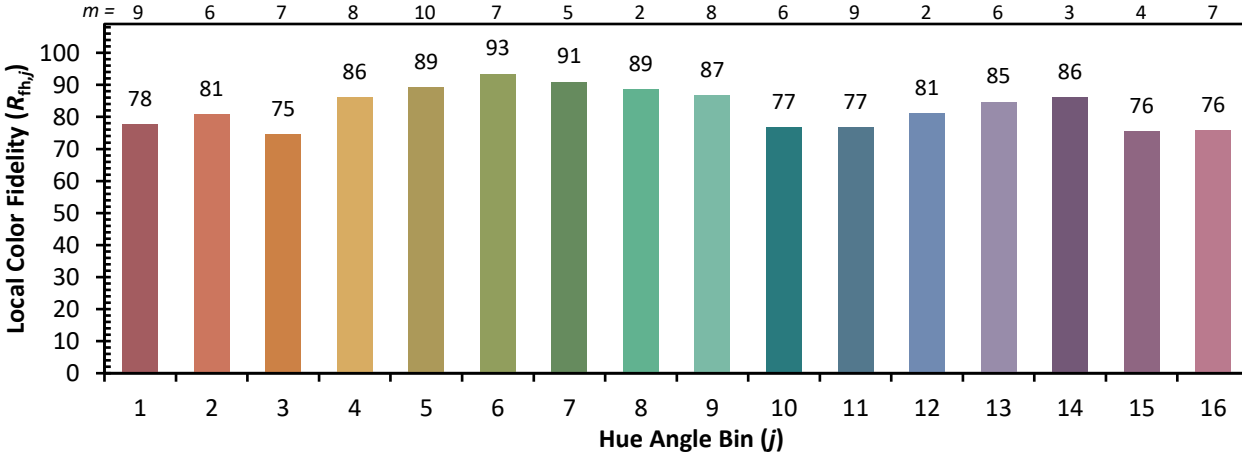


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)