

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: P870675

Luminaire Tested: **EMM2-HTN-SA3A-830-U-T2R-HSS**

Issue Date: 09/05/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P870675  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 09/05/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HTN-SA3A-830-U-T2R-HSS  
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 130W 80CRI 3000K  
FIXTURE w/ TYPE II ROADWAY DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD  
Light Source: (30) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

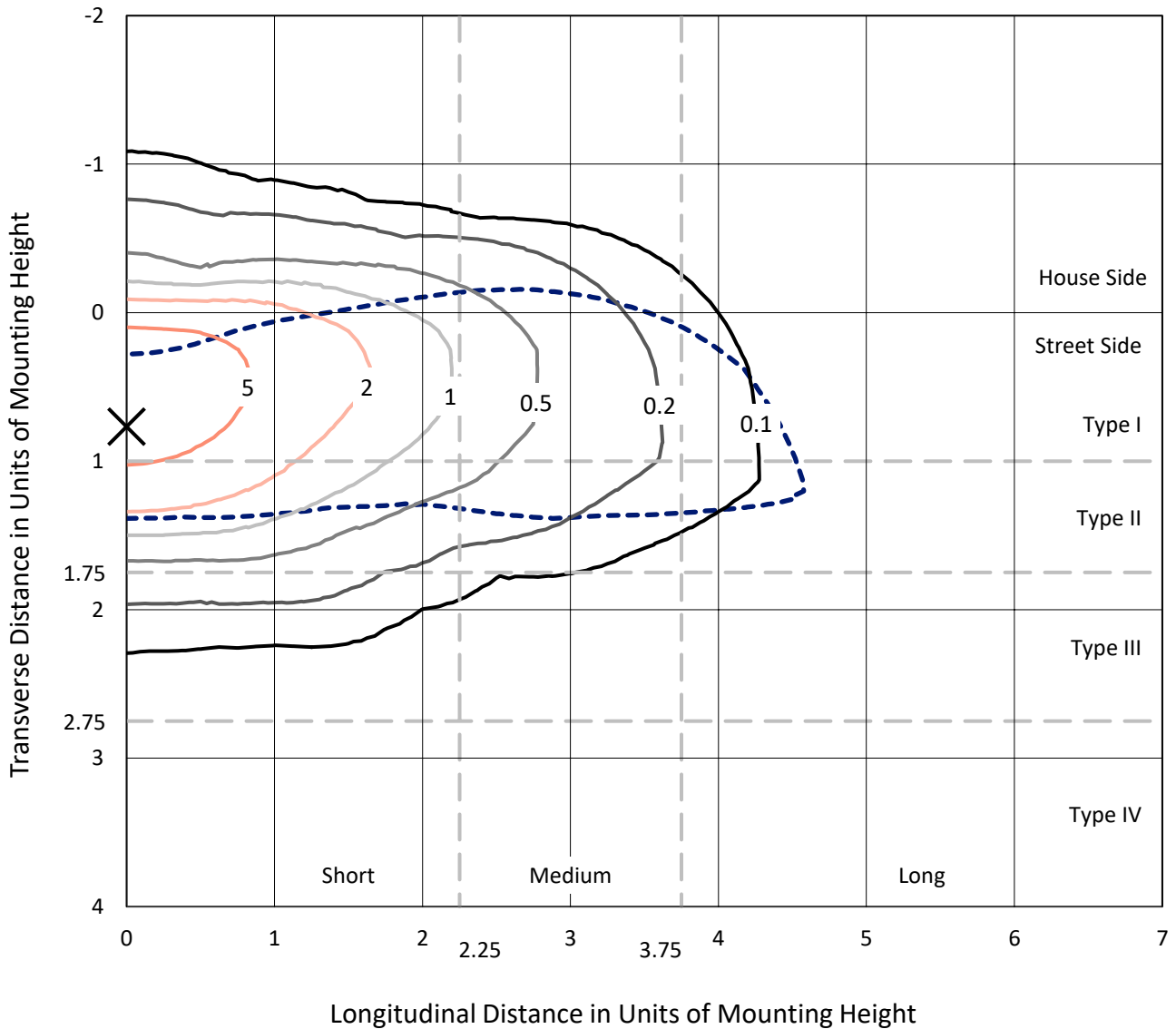
Lumens per Lamp: N/A  
Luminaire Lumens: 10531.9 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2

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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### Iso-Footcandle Lines of Horizontal Illumination

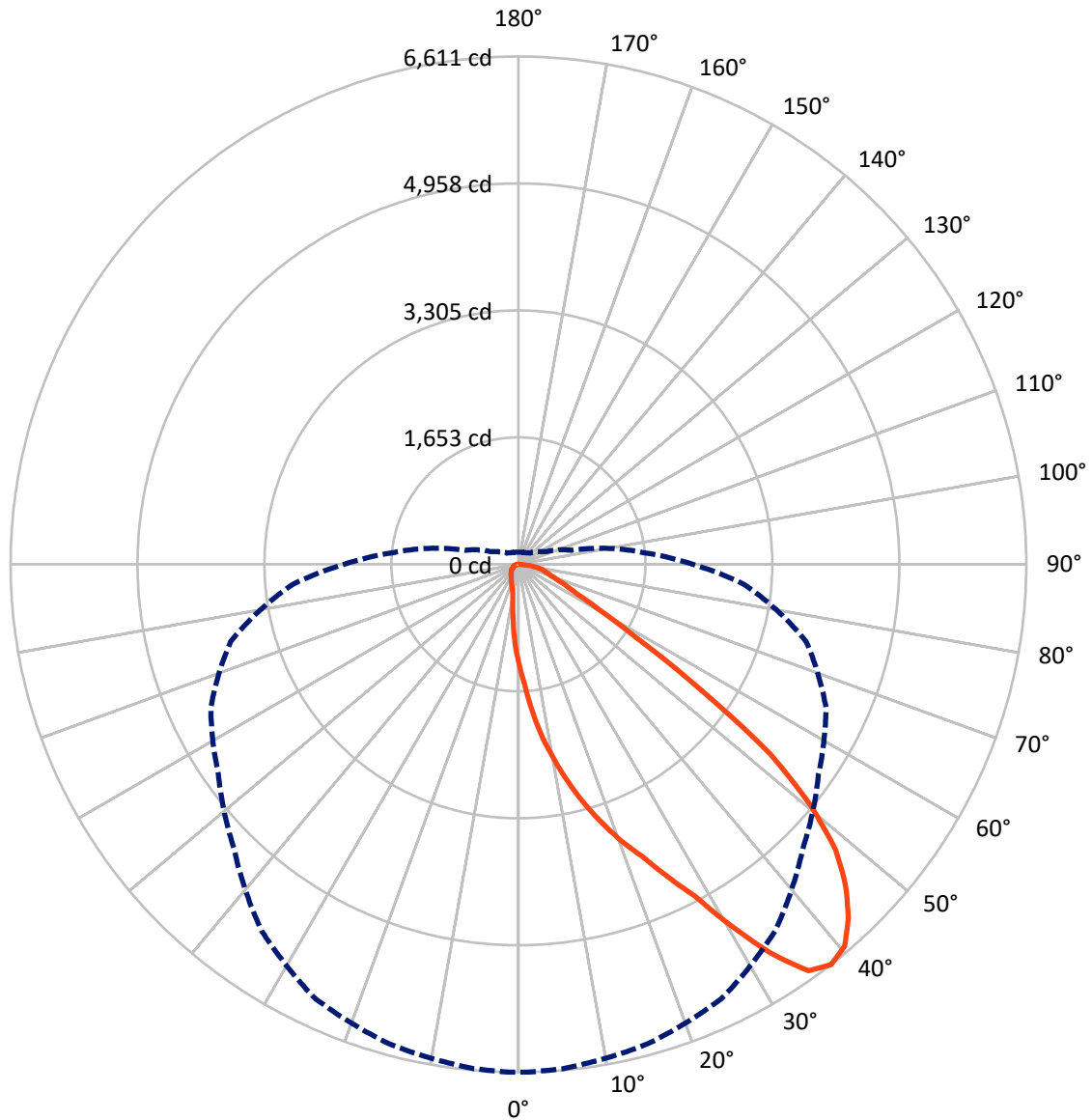
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 37.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1256.1	0.0	1256.1
	% Fixture	11.9	0.0	11.9
<b>Street Side</b>	Lumens	9275.8	0.0	9275.8
	% Fixture	88.1	0.0	88.1
<b>Total</b>	Lumens	10531.9	0.0	10531.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.9	1.2
10°-20°	457.7	4.3
20°-30°	944.3	9.0
30°-40°	1661.5	15.8
40°-50°	2255.9	21.4
50°-60°	2235.1	21.2
60°-70°	1720.7	16.3
70°-80°	998.7	9.5
80°-90°	127.0	1.2
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°	10531.9	100.0
0°-180°	10531.9	100.0

**Coefficient of Utilization**



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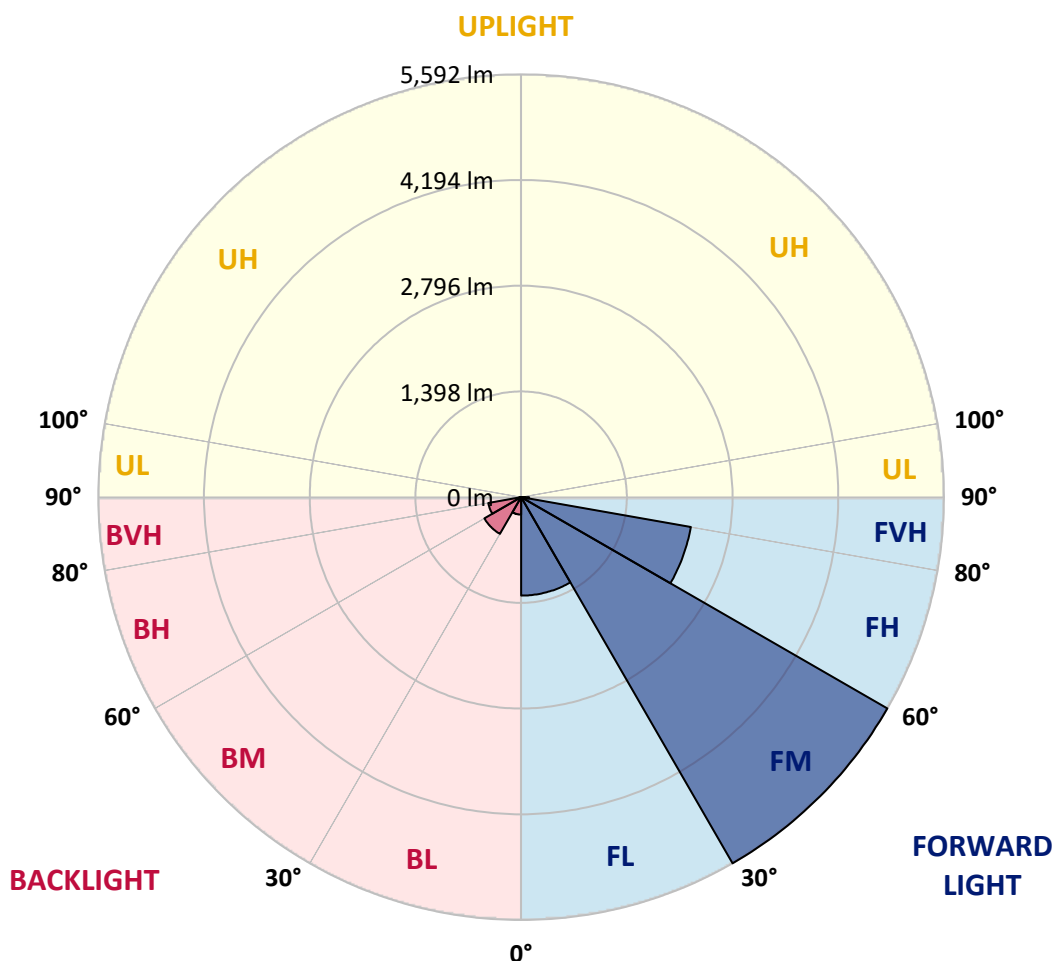
CATALOG NUMBER: EMM2-HTN-SA3A-830-U-T2R-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1301.9	12.4			
FM (30°-60°)	5591.5	53.1			
FH (60°-80°)	2278.7	21.6			G2/5000
FVH (80°-90°)	103.6	1.0			G2/225
BL (0°-30°)	230.9	2.2	B1/500		
BM (30°-60°)	561.0	5.3	B1/1000		
BH (60°-80°)	440.7	4.2	B1/500		G1/500
BVH (80°-90°)	23.4	0.2			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 II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0
2.5°	1572.5	1596.0	1578.4	1563.7	1543.1	1522.6	1493.2	1460.8	1419.7	1369.7	1325.6
5°	1928.2	1939.9	1934.1	1925.2	1860.6	1798.8	1737.1	1660.7	1554.9	1460.8	1360.9
7.5°	2283.8	2278.0	2263.3	2236.8	2178.0	2107.5	1995.8	1869.4	1719.5	1554.9	1399.1
10°	2595.4	2604.2	2592.5	2551.3	2477.8	2380.8	2245.6	2101.6	1898.8	1669.5	1452.0
12.5°	2921.7	2927.5	2927.5	2839.4	2789.4	2639.5	2495.5	2301.5	2075.1	1810.6	1513.7
15°	3242.0	3230.3	3230.3	3171.5	3083.3	2915.8	2754.1	2519.0	2263.3	1942.9	1584.3
17.5°	3547.7	3553.6	3527.2	3462.5	3377.3	3215.6	3015.7	2757.1	2448.4	2101.6	1657.8
20°	3850.5	3832.8	3821.1	3756.4	3665.3	3474.2	3283.2	2989.3	2665.9	2280.9	1760.6
22.5°	4132.7	4141.5	4112.1	4009.2	3924.0	3750.5	3533.0	3262.6	2895.2	2460.2	1872.3
25°	4497.1	4467.7	4494.2	4370.7	4238.5	4032.7	3785.8	3518.3	3145.0	2680.6	2010.5
27.5°	4885.1	4902.7	4888.0	4752.8	4573.5	4297.3	4038.6	3753.5	3397.8	2889.3	2166.3
30°	5464.2	5455.3	5458.3	5255.5	4958.6	4629.4	4311.9	4000.4	3650.6	3145.0	2348.5
32.5°	6037.3	6069.6	5990.3	5811.0	5470.0	4973.3	4585.3	4238.5	3894.6	3365.5	2533.7
35°	6498.8	6490.0	6457.6	6257.8	5919.7	5437.7	4896.9	4503.0	4153.2	3635.9	2739.4
37.5°	6610.5	6610.5	6589.9	6466.5	6243.1	5825.7	5234.9	4767.5	4417.8	3876.9	2939.3
40°	6537.0	6522.3	6510.5	6428.2	6307.7	6060.8	5590.5	5040.9	4699.9	4188.5	3159.7
42.5°	6296.0	6298.9	6284.2	6237.2	6172.5	6078.5	5811.0	5331.9	4976.2	4482.4	3377.3
45°	5972.6	5978.5	5960.9	5955.0	5922.7	5922.7	5861.0	5561.1	5237.8	4782.2	3615.3
47.5°	5558.2	5555.3	5546.5	5531.8	5596.4	5667.0	5722.8	5690.5	5470.0	5105.6	3829.9
50°	4926.3	4920.4	4946.8	5020.3	5179.0	5334.8	5499.4	5652.3	5637.6	5405.4	4088.6
52.5°	4106.2	4068.0	4097.4	4323.7	4650.0	4996.8	5229.0	5470.0	5722.8	5722.8	4344.3
55°	2871.7	2904.0	2921.7	3253.8	3897.5	4494.2	4902.7	5214.3	5690.5	5975.6	4626.5
57.5°	1828.2	1840.0	1892.9	2251.5	3006.9	3753.5	4476.5	4988.0	5570.0	6187.2	4908.6
60°	1231.6	1190.4	1231.6	1437.3	2163.3	2945.2	3850.5	4702.9	5396.5	6340.1	5220.2
62.5°	870.0	867.1	878.8	999.4	1543.1	2213.3	3065.7	4317.8	5258.4	6348.9	5452.4
65°	702.5	681.9	690.7	758.3	1034.6	1622.5	2248.6	3621.2	5135.0	6193.1	5567.0
67.5°	564.3	555.5	561.4	605.5	776.0	1219.8	1584.3	2754.1	4873.4	5928.6	5502.4
70°	461.5	464.4	467.3	511.4	617.3	922.9	1131.6	1890.0	4314.9	5628.8	5211.4
72.5°	399.7	399.7	402.7	432.1	517.3	731.9	855.3	1228.6	3491.9	5305.4	4676.4
75°	352.7	352.7	352.7	379.2	440.9	587.9	664.3	840.6	2507.2	4705.8	3868.1
77.5°	305.7	308.6	308.6	332.1	379.2	458.5	511.4	582.0	1599.0	3635.9	2927.5
80°	235.1	235.1	238.1	264.5	323.3	358.6	376.2	411.5	840.6	2283.8	1857.6
82.5°	164.6	167.5	167.5	170.5	217.5	220.4	202.8	205.8	305.7	758.3	705.4
85°	17.6	20.6	23.5	23.5	38.2	47.0	50.0	47.0	50.0	88.2	88.2
87.5°	0.0	0.0	0.0	0.0	2.9	5.9	5.9	8.8	8.8	8.8	8.8
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°	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0	1305.0
2.5°	1302.1	1281.5	1237.4	1199.2	1164.0	1134.6	1114.0	1087.5	1067.0	1067.0	1078.7
5°	1310.9	1263.9	1172.8	1087.5	1019.9	955.3	896.5	858.3	828.9	811.2	811.2
7.5°	1322.7	1252.1	1114.0	984.7	878.8	776.0	684.9	640.8	596.7	582.0	584.9
10°	1346.2	1246.3	1061.1	893.5	734.8	605.5	517.3	470.3	446.8	435.0	435.0
12.5°	1372.7	1246.3	1005.2	790.7	605.5	473.2	420.3	385.0	373.3	367.4	361.5
15°	1407.9	1252.1	958.2	681.9	493.8	399.7	361.5	341.0	329.2	323.3	323.3
17.5°	1449.1	1258.0	908.2	593.7	420.3	352.7	323.3	308.6	296.9	291.0	291.0
20°	1502.0	1272.7	858.3	514.4	367.4	323.3	296.9	282.2	270.4	267.5	264.5
22.5°	1566.6	1296.2	808.3	449.7	332.1	293.9	270.4	258.7	249.8	244.0	244.0
25°	1643.1	1325.6	770.1	402.7	305.7	273.4	252.8	238.1	229.3	226.3	226.3
27.5°	1748.9	1375.6	731.9	367.4	285.1	252.8	232.2	220.4	211.6	208.7	205.8
30°	1848.8	1437.3	714.2	358.6	270.4	235.1	220.4	205.8	196.9	194.0	191.1
32.5°	1978.1	1507.9	702.5	358.6	264.5	223.4	205.8	194.0	185.2	182.2	179.3
35°	2116.3	1590.2	702.5	370.4	267.5	214.6	194.0	182.2	173.4	167.5	167.5
37.5°	2266.2	1672.5	708.4	388.0	276.3	208.7	182.2	170.5	161.7	158.7	158.7
40°	2424.9	1784.2	720.1	402.7	285.1	205.8	170.5	161.7	152.8	147.0	147.0
42.5°	2571.9	1872.3	740.7	420.3	291.0	202.8	161.7	152.8	144.0	141.1	141.1
45°	2742.4	1969.3	758.3	432.1	291.0	194.0	152.8	144.0	138.1	135.2	132.3
47.5°	2877.6	2048.7	767.2	438.0	285.1	185.2	144.0	138.1	132.3	126.4	129.3
50°	3042.2	2133.9	781.9	440.9	273.4	173.4	138.1	129.3	123.5	120.5	120.5
52.5°	3200.9	2219.2	793.6	435.0	258.7	158.7	129.3	123.5	117.6	111.7	111.7
55°	3389.0	2313.2	811.2	426.2	235.1	144.0	120.5	114.6	105.8	102.9	99.9
57.5°	3603.6	2436.7	825.9	408.6	205.8	129.3	114.6	105.8	94.1	88.2	88.2
60°	3800.5	2577.8	837.7	364.5	179.3	120.5	105.8	97.0	85.2	82.3	82.3
62.5°	4012.1	2724.7	837.7	288.1	152.8	108.8	99.9	91.1	79.4	76.4	76.4
65°	4159.1	2857.0	811.2	214.6	129.3	102.9	97.0	85.2	73.5	70.5	70.5
67.5°	4200.3	2939.3	737.8	152.8	111.7	97.0	91.1	79.4	70.5	64.7	64.7
70°	4068.0	2874.6	602.6	117.6	97.0	88.2	82.3	73.5	64.7	61.7	61.7
72.5°	3688.8	2627.7	449.7	99.9	85.2	82.3	76.4	67.6	61.7	58.8	58.8
75°	3089.2	2183.9	317.4	88.2	79.4	73.5	67.6	61.7	55.8	55.8	55.8
77.5°	2339.7	1578.4	196.9	79.4	67.6	67.6	61.7	55.8	52.9	50.0	50.0
80°	1510.8	996.4	111.7	55.8	47.0	50.0	44.1	38.2	38.2	35.3	35.3
82.5°	640.8	393.9	58.8	32.3	23.5	20.6	14.7	14.7	11.8	11.8	11.8
85°	64.7	23.5	11.8	8.8	8.8	5.9	5.9	5.9	5.9	2.9	2.9
87.5°	8.8	8.8	8.8	5.9	5.9	5.9	2.9	2.9	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



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: SP1-2407-157-7

Test Date: 09/05/2024

Luminaire Tested: MEM2-HTN-SA-40-830-U-5WQ

Data in this report applies to families of products including MEM2-HTN-SA-40-830-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-7  
 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-40-830-U-5WQ**  
 Description: Epic Modern Light Square 40W 5WQ Optic

**Spectral Parameters**

CCT (K): 3126  
 CIE u': 0.2465  
 CIE v': 0.5182  
 Duv: -0.0004  
 CIE x: 0.4277  
 CIE y: 0.3997  
 CIE z: 0.1727  
 Peak Wavelength (nm): 601  
 Dominant Wavelength (nm): 582  
 Purity: 48.31913  
 Rf: 84.4  
 Rg: 94.7

CRI (Ra):	82.6		
R1:	81.4	R9:	5.1
R2:	92.2	R10:	82.2
R3:	94.9	R11:	79.8
R4:	80.1	R12:	70.4
R5:	81.8	R13:	84.2
R6:	90.5	R14:	97.9
R7:	81.8	R15:	73.6
R8:	58.0		



**Test Conditions**

Stabilization Time: 22M  
 Operation Time: 1H 22M  
 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 3000K 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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.42

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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.79

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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

**Summary**

$R_f = 84.4$   
 $R_g = 94.7$   
 $CIE R_a = 82.6$   
 $R_9 = 5.1$



**Color Vector Graphics**



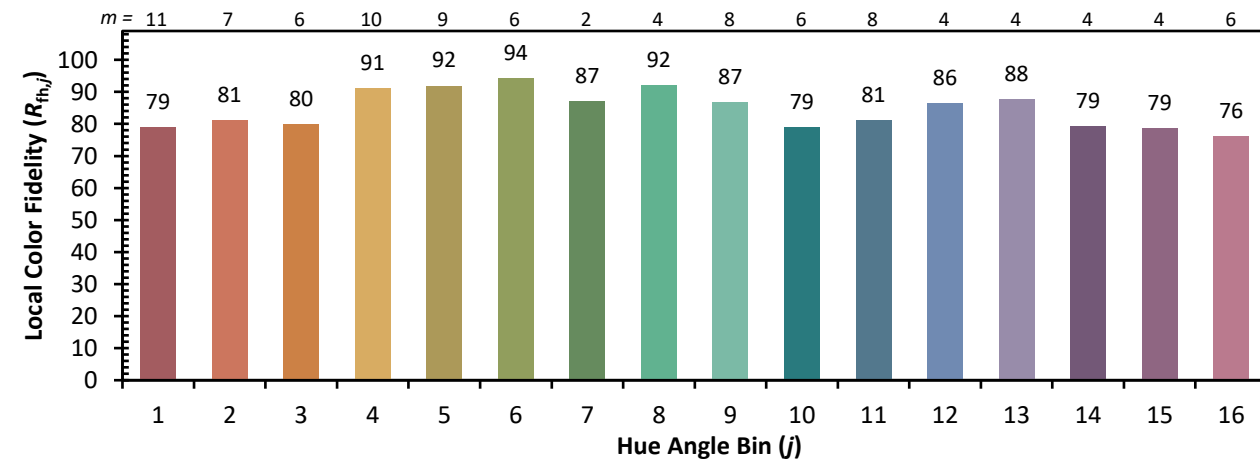
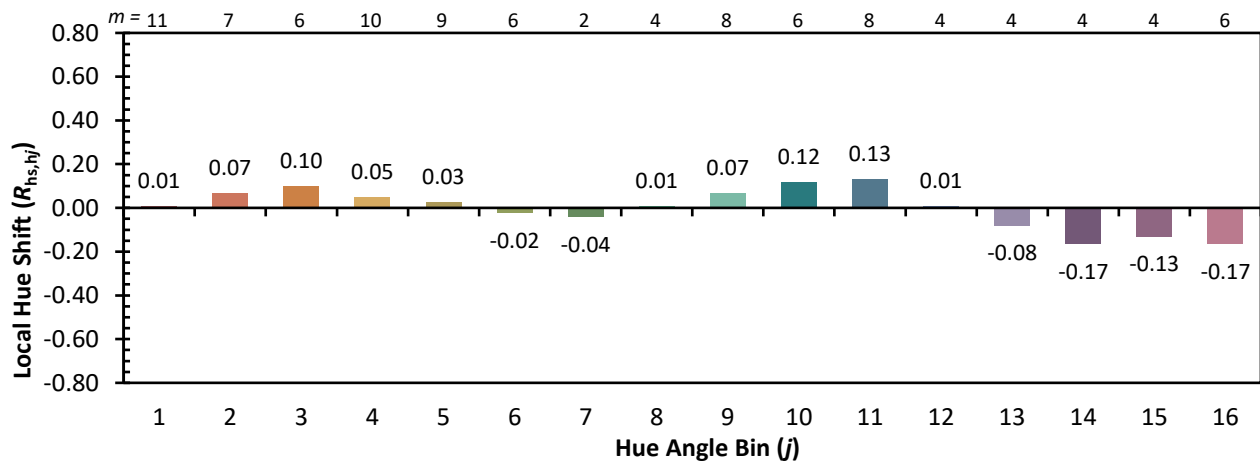
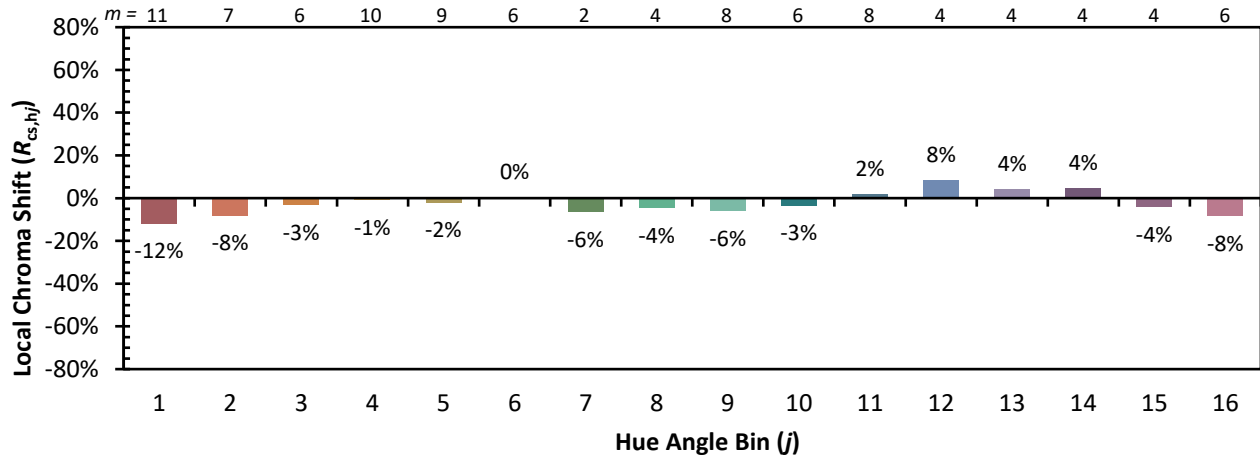


Individual Sample Fidelity Index ( $R_{f,i}$ )

CES01 = 86	CES26 = 86	CES51 = 93	CES76 = 82
CES02 = 63	CES27 = 92	CES52 = 93	CES77 = 84
CES03 = 31	CES28 = 94	CES53 = 89	CES78 = 81
CES04 = 70	CES29 = 92	CES54 = 89	CES79 = 90
CES05 = 49	CES30 = 91	CES55 = 86	CES80 = 89
CES06 = 51	CES31 = 93	CES56 = 85	CES81 = 72
CES07 = 42	CES32 = 85	CES57 = 83	CES82 = 95
CES08 = 41	CES33 = 97	CES58 = 84	CES83 = 94
CES09 = 29	CES34 = 92	CES59 = 91	CES84 = 91
CES10 = 76	CES35 = 96	CES60 = 90	CES85 = 74
CES11 = 59	CES36 = 81	CES61 = 87	CES86 = 68
CES12 = 65	CES37 = 96	CES62 = 83	CES87 = 84
CES13 = 43	CES38 = 86	CES63 = 87	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 79	CES89 = 75
CES15 = 71	CES40 = 96	CES65 = 78	CES90 = 89
CES16 = 47	CES41 = 96	CES66 = 77	CES91 = 73
CES17 = 50	CES42 = 97	CES67 = 76	CES92 = 63
CES18 = 56	CES43 = 91	CES68 = 80	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 85	CES94 = 61
CES20 = 66	CES45 = 93	CES70 = 78	CES95 = 73
CES21 = 87	CES46 = 90	CES71 = 74	CES96 = 84
CES22 = 79	CES47 = 94	CES72 = 91	CES97 = 88
CES23 = 92	CES48 = 83	CES73 = 74	CES98 = 85
CES24 = 91	CES49 = 91	CES74 = 90	CES99 = 76
CES25 = 72	CES50 = 93	CES75 = 78	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)