

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: P871011

Luminaire Tested: **EMM2-HSN-SA3A-840-U-T1**

Issue Date: 09/05/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P871011  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 09/05/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-SA3A-840-U-T1  
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 130W 80CRI 4000K  
FIXTURE w/ TYPE 1 DISTRIBUTION OPTIC  
Light Source: (30) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

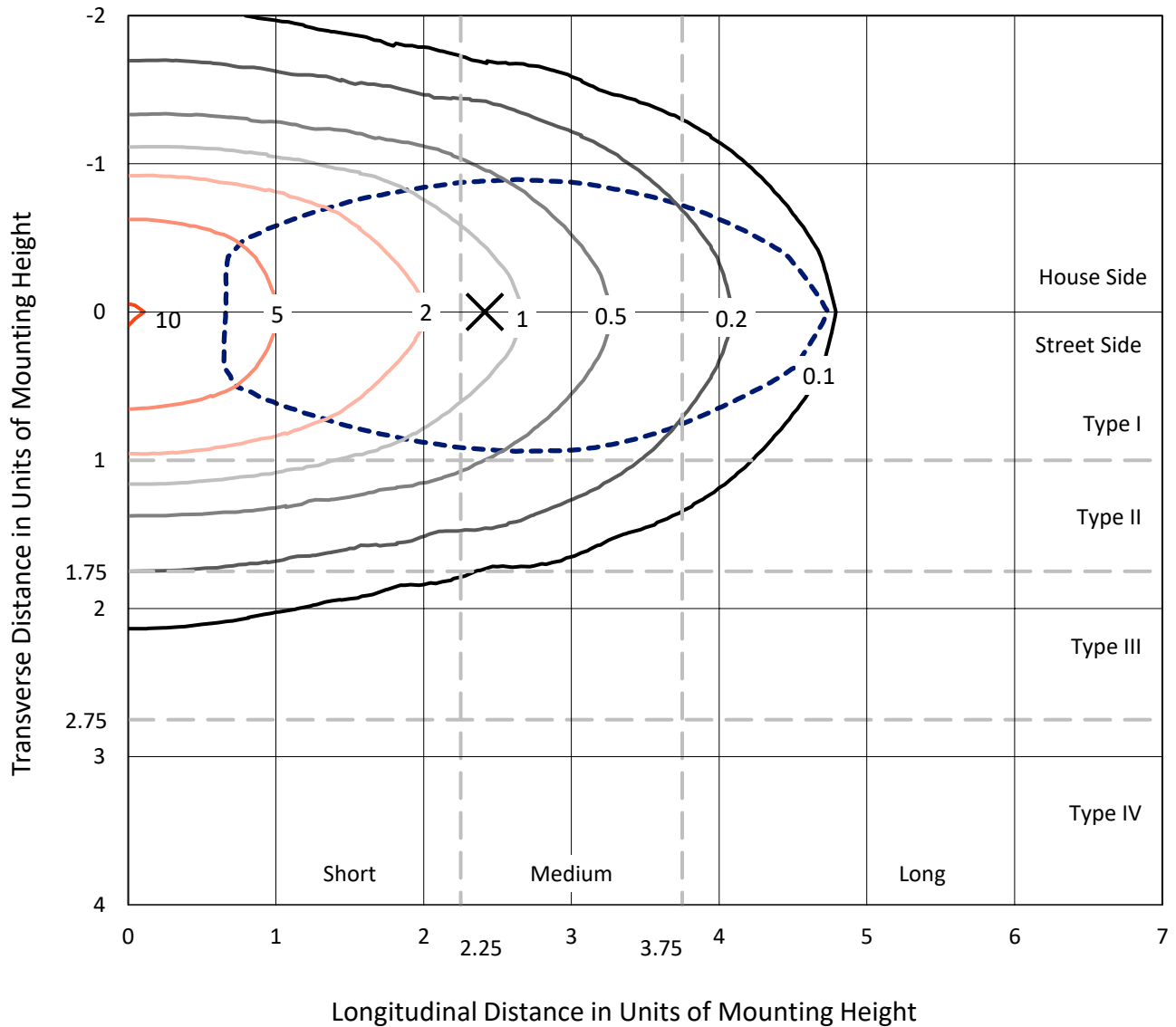
Lumens per Lamp: N/A  
Luminaire Lumens: 16639.9 lumens  
Efficiency: N/A  
Efficacy: 147.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')  
IES Classification: Type I - Short  
BUG Rating: B3 - U0 - G3

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-840-U-T1

### Iso-Footcandle Lines of Horizontal Illumination

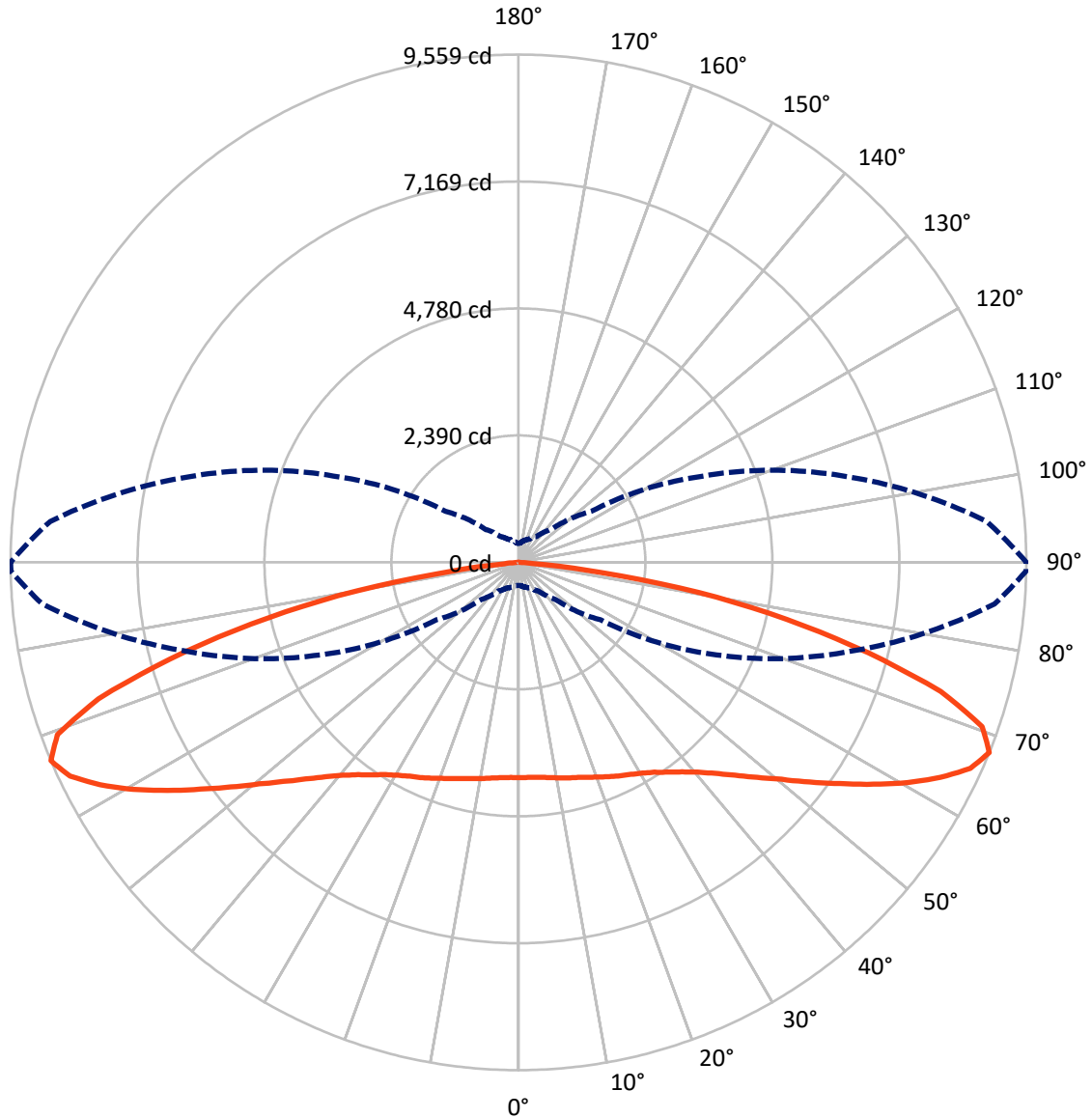
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.1 fc  
 Type I - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	8172.2	0.0	8172.2
	% Fixture	49.1	0.0	49.1
<b>Street Side</b>	Lumens	8467.7	0.0	8467.7
	% Fixture	50.9	0.0	50.9
<b>Total</b>	Lumens	16639.9	0.0	16639.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	388.6	2.3
10°-20°	1167.6	7.0
20°-30°	1932.4	11.6
30°-40°	2562.4	15.4
40°-50°	2889.0	17.4
50°-60°	2961.7	17.8
60°-70°	2797.3	16.8
70°-80°	1716.4	10.3
80°-90°	224.6	1.3
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°	16639.9	100.0
0°-180°	16639.9	100.0

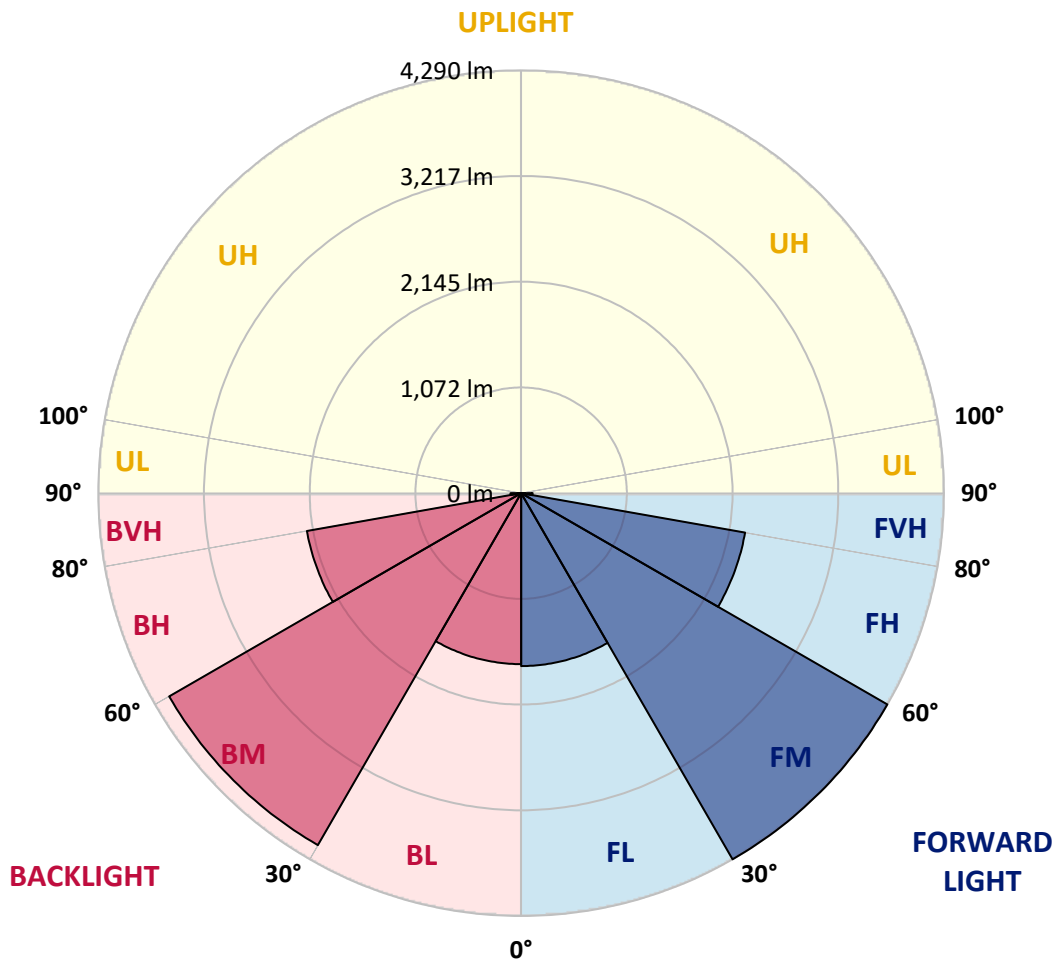


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1754.3	10.5			
FM (30°-60°)	4289.6	25.8			
FH (60°-80°)	2306.9	13.9			G2/5000
FVH (80°-90°)	117.0	0.7			G2/225
BL (0°-30°)	1734.3	10.4	B3/2500		
BM (30°-60°)	4123.5	24.8	B3/5000		
BH (60°-80°)	2206.8	13.3	B3/2500		G3/2500
BVH (80°-90°)	107.6	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**  
 Type I Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	89°
0°	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3
2.5°	4070.3	4070.3	4060.7	4044.7	4041.5	4044.7	4063.9	4054.3	4054.3	4057.5	4054.3
5°	4070.3	4070.3	4063.9	4047.9	4047.9	4047.9	4070.3	4060.7	4063.9	4067.1	4067.1
7.5°	4076.6	4076.6	4070.3	4057.5	4057.5	4057.5	4089.4	4083.0	4083.0	4092.6	4086.2
10°	4092.6	4086.2	4079.8	4083.0	4073.5	4089.4	4105.4	4108.6	4121.4	4127.8	4124.6
12.5°	4092.6	4086.2	4070.3	4089.4	4089.4	4111.8	4134.2	4146.9	4162.9	4162.9	4162.9
15°	4073.5	4067.1	4054.3	4086.2	4099.0	4127.8	4159.7	4178.9	4207.6	4207.6	4204.4
17.5°	4051.1	4041.5	4035.1	4083.0	4111.8	4150.1	4198.1	4223.6	4255.6	4258.8	4252.4
20°	4009.6	4006.4	4009.6	4073.5	4124.6	4178.9	4236.4	4271.5	4313.1	4325.8	4316.3
22.5°	3964.8	3964.8	3977.6	4063.9	4143.7	4217.2	4293.9	4338.6	4380.2	4392.9	4380.2
25°	3904.1	3904.1	3929.7	4031.9	4150.1	4258.8	4348.2	4408.9	4447.3	4460.0	4453.6
27.5°	3811.5	3811.5	3840.2	3968.0	4131.0	4290.7	4405.7	4476.0	4517.5	4530.3	4523.9
30°	3680.5	3674.1	3712.4	3872.2	4095.8	4325.8	4472.8	4546.3	4600.6	4610.2	4600.6
32.5°	3472.8	3482.4	3539.9	3741.2	4038.3	4348.2	4552.7	4638.9	4699.6	4718.8	4712.4
35°	3220.4	3236.4	3316.3	3575.1	3929.7	4345.0	4635.8	4741.2	4821.1	4846.6	4843.4
37.5°	2920.1	2942.5	3041.5	3345.0	3766.7	4297.1	4712.4	4856.2	4961.6	4993.6	5000.0
40°	2591.0	2613.4	2741.2	3076.7	3546.3	4185.3	4757.2	4987.2	5127.8	5191.7	5201.2
42.5°	2242.8	2281.1	2434.5	2760.4	3281.1	4006.4	4757.2	5115.0	5287.5	5405.7	5415.3
45°	1907.3	1939.3	2124.6	2444.1	2996.8	3776.3	4702.8	5242.8	5504.8	5709.2	5702.8
47.5°	1616.6	1626.2	1795.5	2118.2	2680.5	3514.4	4591.0	5357.8	5734.8	6006.3	6063.9
50°	1316.3	1338.6	1482.4	1801.9	2357.8	3226.8	4402.5	5431.3	5971.2	6383.3	6456.8
52.5°	1105.4	1108.6	1217.2	1511.2	2022.4	2878.6	4175.7	5450.4	6198.0	6792.3	6881.7
55°	901.0	916.9	1009.6	1230.0	1699.7	2536.7	3881.8	5421.7	6405.7	7188.4	7354.6
57.5°	773.2	776.4	843.4	1019.2	1434.5	2172.5	3555.9	5325.8	6578.2	7626.1	7837.0
60°	664.5	664.5	715.7	849.8	1159.7	1817.9	3172.5	5156.5	6674.1	8095.8	8402.5
62.5°	578.3	581.5	626.2	725.2	964.8	1501.6	2750.8	4891.3	6709.2	8549.5	8900.9
65°	524.0	527.2	552.7	619.8	795.5	1220.4	2319.5	4568.7	6661.3	8888.1	9345.0
67.5°	434.5	437.7	482.4	533.5	661.3	980.8	1885.0	4121.4	6466.4	8993.5	9552.7
70°	332.3	341.9	402.6	456.9	549.5	782.7	1447.3	3530.3	6000.0	8635.7	9210.8
72.5°	278.0	281.1	325.9	386.6	460.1	613.4	1099.0	2779.5	5290.7	7712.4	8351.4
75°	242.8	246.0	271.6	325.9	383.4	492.0	763.6	1920.1	4220.4	6236.4	6821.0
77.5°	220.4	223.6	230.0	274.8	322.7	380.2	539.9	1140.6	2977.6	4766.7	5073.4
80°	210.9	210.9	194.9	226.8	265.2	297.1	361.0	654.9	1910.5	3214.0	3460.0
82.5°	150.2	147.0	134.2	140.6	162.9	162.9	185.3	271.6	731.6	1357.8	1472.8
85°	9.6	9.6	16.0	19.2	28.8	38.3	47.9	63.9	185.3	252.4	262.0
87.5°	3.2	3.2	3.2	3.2	3.2	6.4	6.4	6.4	9.6	12.8	12.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P871011

CATALOG NUMBER: EMM2-HSN-SA3A-840-U-T1

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3	4054.3
2.5°	4051.1	4054.3	4054.3	4060.7	4067.1	4063.9	4060.7	4067.1	4057.5	4038.3	4035.1
5°	4063.9	4063.9	4060.7	4067.1	4073.5	4067.1	4060.7	4060.7	4054.3	4035.1	4031.9
7.5°	4089.4	4086.2	4086.2	4086.2	4086.2	4076.6	4067.1	4060.7	4051.1	4031.9	4022.3
10°	4124.6	4121.4	4118.2	4115.0	4099.0	4089.4	4073.5	4063.9	4051.1	4028.7	4022.3
12.5°	4162.9	4156.5	4150.1	4153.3	4121.4	4092.6	4076.6	4054.3	4044.7	3993.6	3984.0
15°	4201.2	4191.7	4188.5	4175.7	4143.7	4102.2	4070.3	4038.3	4006.4	3958.4	3942.5
17.5°	4252.4	4246.0	4226.8	4214.0	4169.3	4111.8	4063.9	4019.1	3977.6	3920.1	3910.5
20°	4313.1	4306.7	4287.5	4262.0	4204.4	4134.2	4067.1	3996.8	3945.7	3878.6	3862.6
22.5°	4380.2	4370.6	4354.6	4325.8	4252.4	4169.3	4076.6	3984.0	3907.3	3830.6	3821.1
25°	4450.4	4444.1	4428.1	4386.6	4306.7	4204.4	4076.6	3939.3	3843.4	3776.3	3747.6
27.5°	4517.5	4514.3	4495.2	4447.3	4364.2	4230.0	4047.9	3865.8	3738.0	3648.5	3629.4
30°	4603.8	4597.4	4575.0	4520.7	4428.1	4246.0	3990.4	3741.2	3581.4	3482.4	3453.7
32.5°	4709.2	4702.8	4670.9	4603.8	4504.8	4249.2	3907.3	3581.4	3370.6	3265.2	3230.0
35°	4849.8	4837.0	4795.5	4715.6	4578.2	4217.2	3760.4	3377.0	3118.2	2980.8	2932.9
37.5°	5003.2	4987.2	4932.9	4833.8	4629.4	4131.0	3552.7	3102.2	2808.3	2645.3	2610.2
40°	5191.7	5169.3	5086.2	4948.8	4648.5	3980.8	3319.5	2821.1	2508.0	2329.1	2287.5
42.5°	5428.1	5389.7	5255.6	5076.6	4610.2	3776.3	3041.5	2530.3	2172.5	2006.4	1996.8
45°	5712.4	5651.7	5450.4	5201.2	4527.1	3520.7	2747.6	2204.5	1862.6	1699.7	1658.1
47.5°	6047.9	5974.4	5677.3	5297.1	4364.2	3258.8	2431.3	1888.2	1575.1	1408.9	1377.0
50°	6418.5	6348.2	5916.9	5351.4	4188.5	2952.1	2121.4	1607.0	1293.9	1156.5	1156.5
52.5°	6869.0	6709.2	6146.9	5357.8	3920.1	2613.4	1824.3	1332.3	1086.3	964.8	939.3
55°	7348.2	7159.7	6354.6	5300.3	3642.1	2303.5	1504.8	1108.6	891.4	805.1	782.7
57.5°	7881.7	7594.2	6504.7	5185.3	3290.7	1964.8	1255.6	913.7	750.8	680.5	670.9
60°	8418.5	8047.9	6594.2	4990.4	2916.9	1651.7	1044.7	763.6	645.4	594.2	584.7
62.5°	8916.9	8418.5	6600.6	4706.0	2552.7	1377.0	856.2	658.1	571.9	533.5	533.5
65°	9348.2	8728.4	6492.0	4341.8	2089.4	1105.4	706.1	555.9	498.4	456.9	447.3
67.5°	9559.0	8846.6	6300.3	3843.4	1674.1	875.4	594.2	482.4	428.1	364.2	357.8
70°	9261.9	8504.7	5808.3	3204.5	1293.9	696.5	495.2	412.1	357.8	303.5	297.1
72.5°	8313.0	7594.2	5012.7	2482.4	974.4	562.3	412.1	351.4	293.9	265.2	258.8
75°	6801.9	6316.3	3961.6	1709.3	680.5	440.9	345.0	297.1	249.2	236.4	233.2
77.5°	5162.9	4696.5	2894.5	1070.3	466.5	345.0	293.9	252.4	217.3	226.8	220.4
80°	3447.3	3233.2	1923.3	607.0	313.1	252.4	223.6	185.3	166.1	191.7	185.3
82.5°	1565.5	1482.4	904.1	265.2	140.6	108.6	76.7	57.5	44.7	41.5	47.9
85°	262.0	230.0	63.9	28.8	16.0	9.6	6.4	6.4	3.2	3.2	3.2
87.5°	12.8	9.6	9.6	6.4	3.2	3.2	3.2	3.2	3.2	0.0	0.0
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**

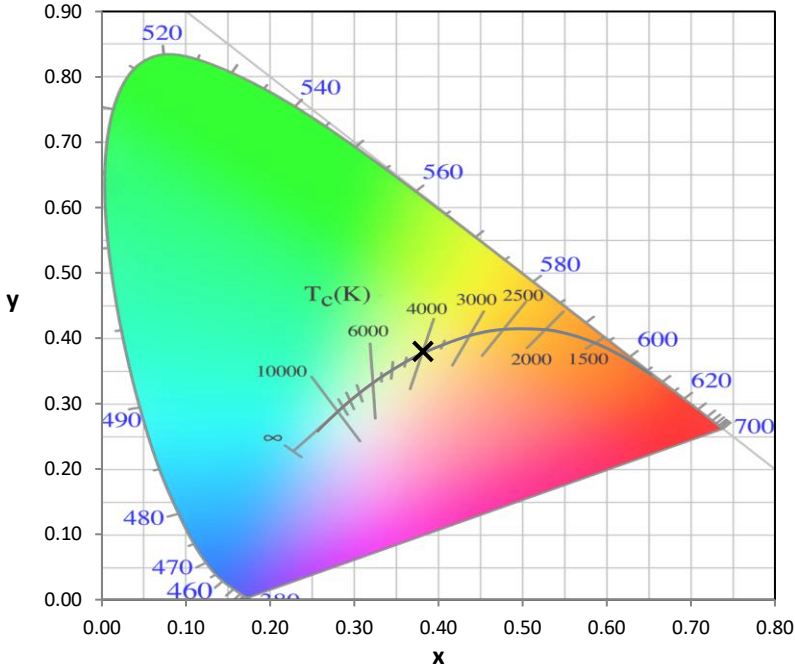
Stabilization Time: 29M  
 Operation Time: 1H 29M  
 Sphere Temperature (°C): 24.3

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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**

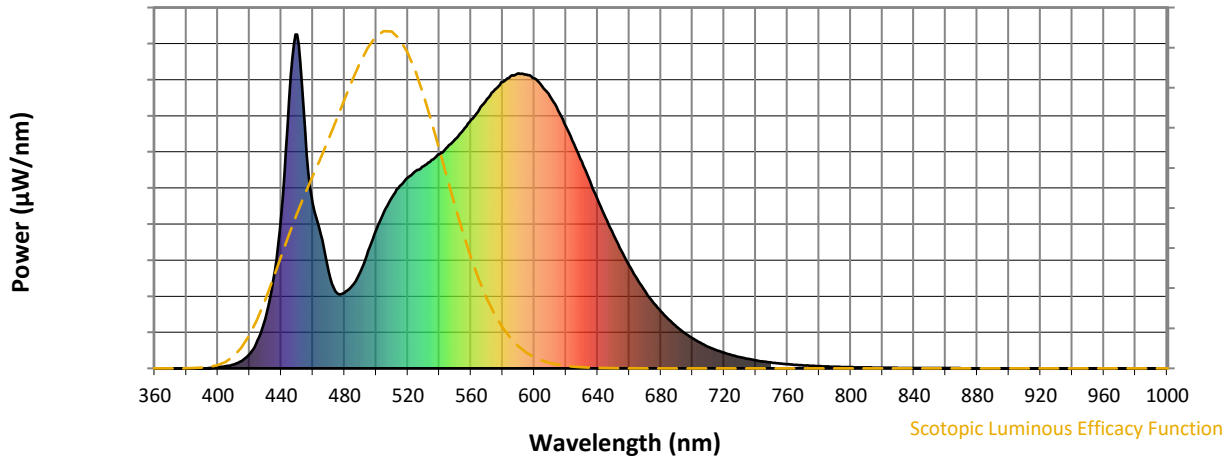


**Photopic Lumens: NR**

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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**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

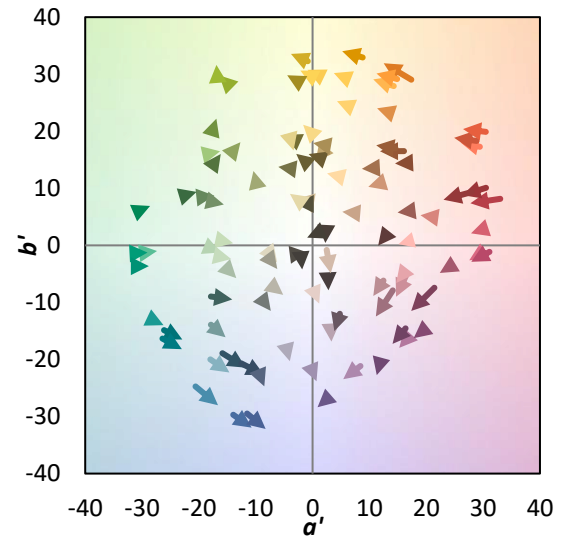
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	289	NR	620	725	NR	750	17	NR	880	0	NR
365	0	NR	495	351	NR	625	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  $R_a = 80.6$   
 $R_9 = -5.8$



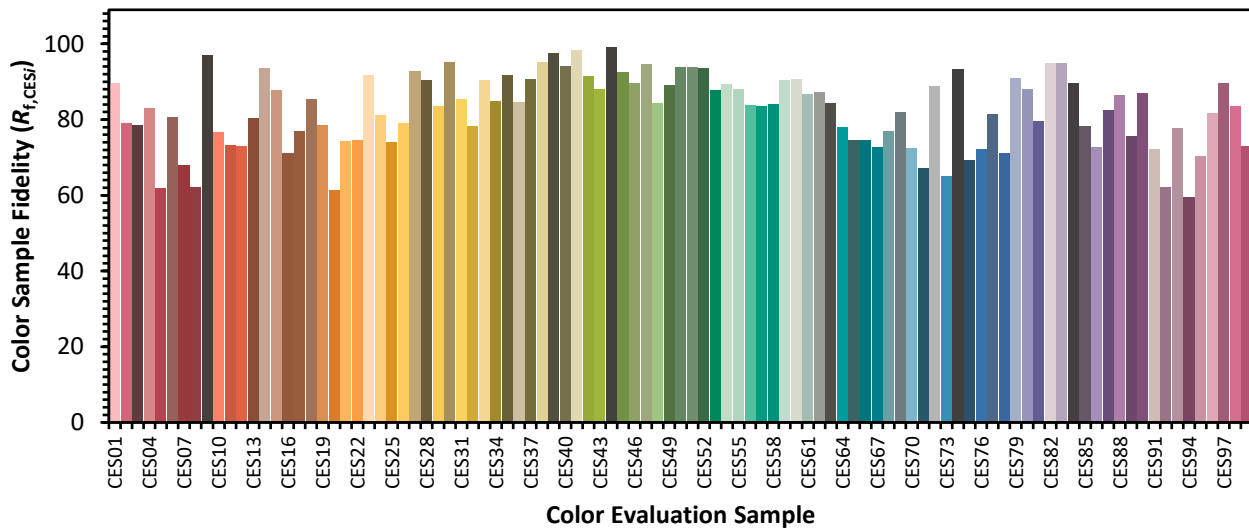
**Color Vector Graphics**



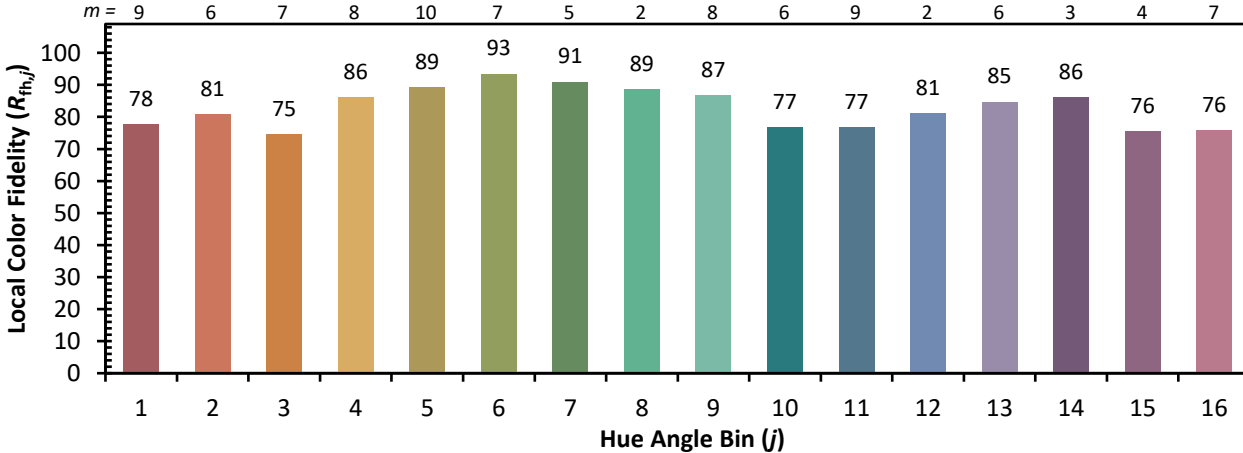


Individual Sample Fidelity Index ( $R_{f,i}$ )

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)