

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: P869239

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

Issue Date: 08/22/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P869239  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/22/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-SA3A-AMB-U-T4W  
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 46W OCRI 1540K  
FITXURE w/ TYPE IV WIDE DISTRIBUTION OPTIC  
Light Source: (30) 1540K CCT, 0 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

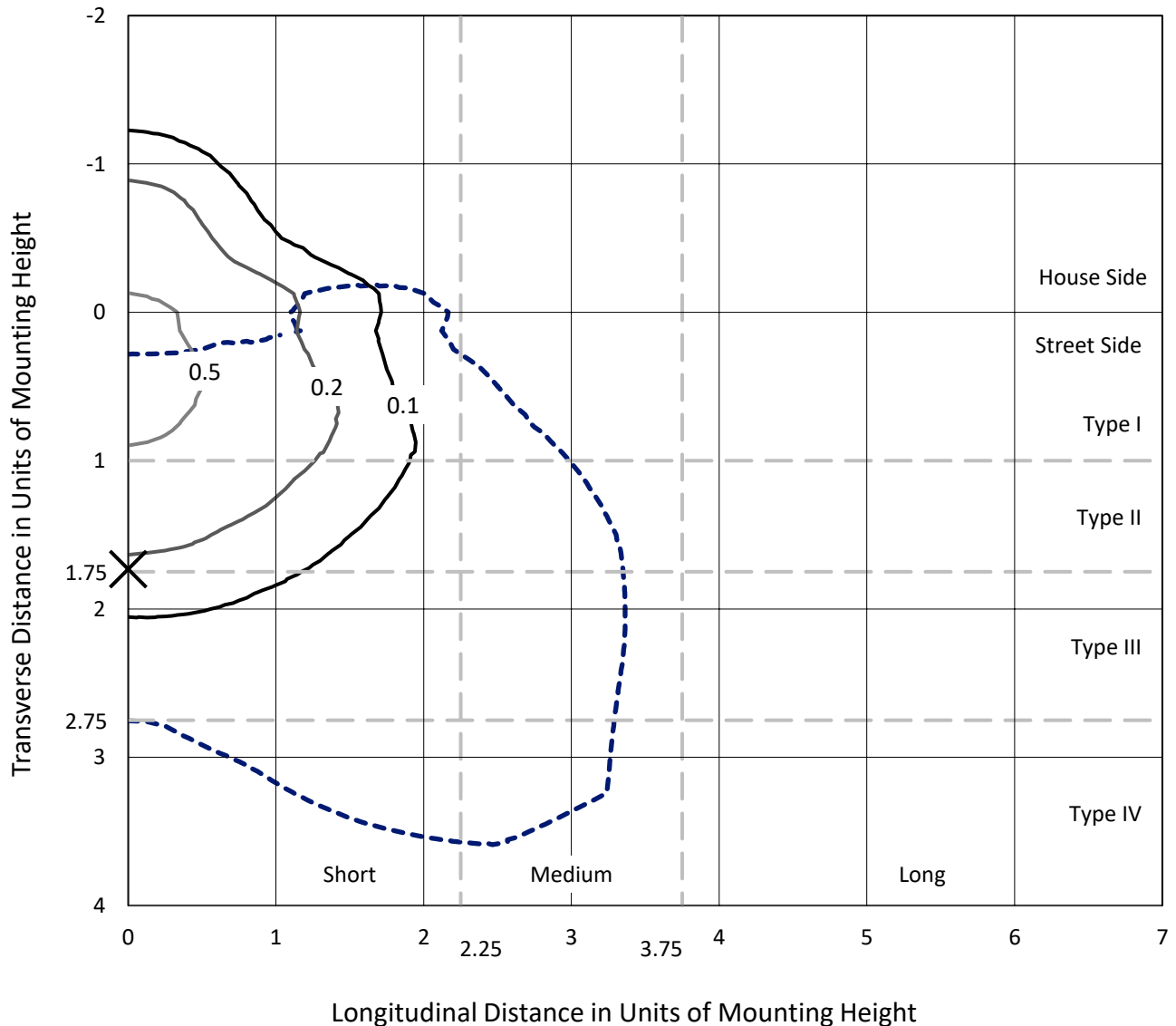
Lumens per Lamp: N/A  
Luminaire Lumens: 1393.4 lumens  
Efficiency: N/A  
Efficacy: 30.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.33' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1

Input Watts (W): 46  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.98  
Total Harmonic Distortion (THDi): 6.75%  
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-AMB-U-T4W

### Iso-Footcandle Lines of Horizontal Illumination

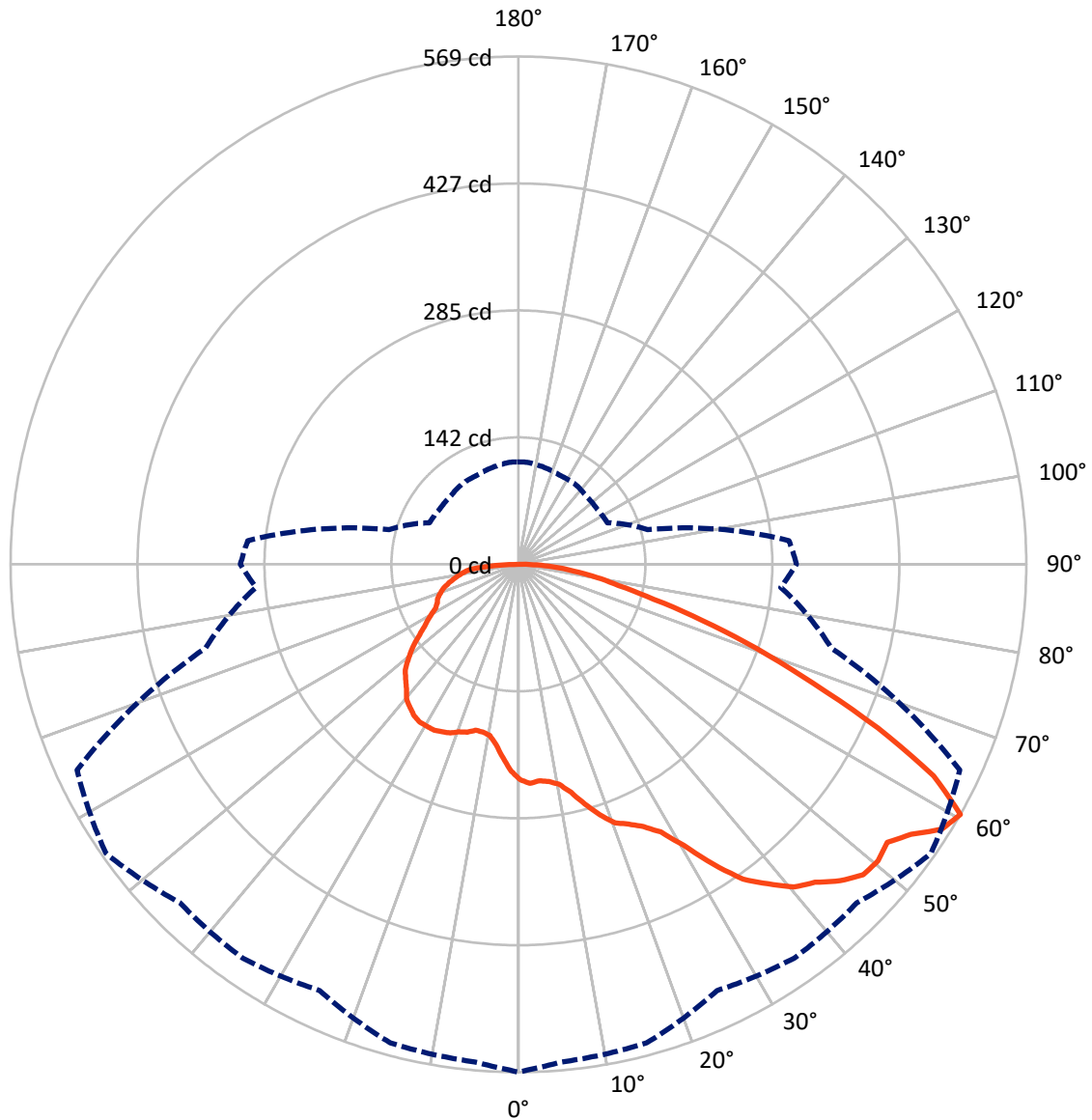
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 0.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 60-Deg Vertical

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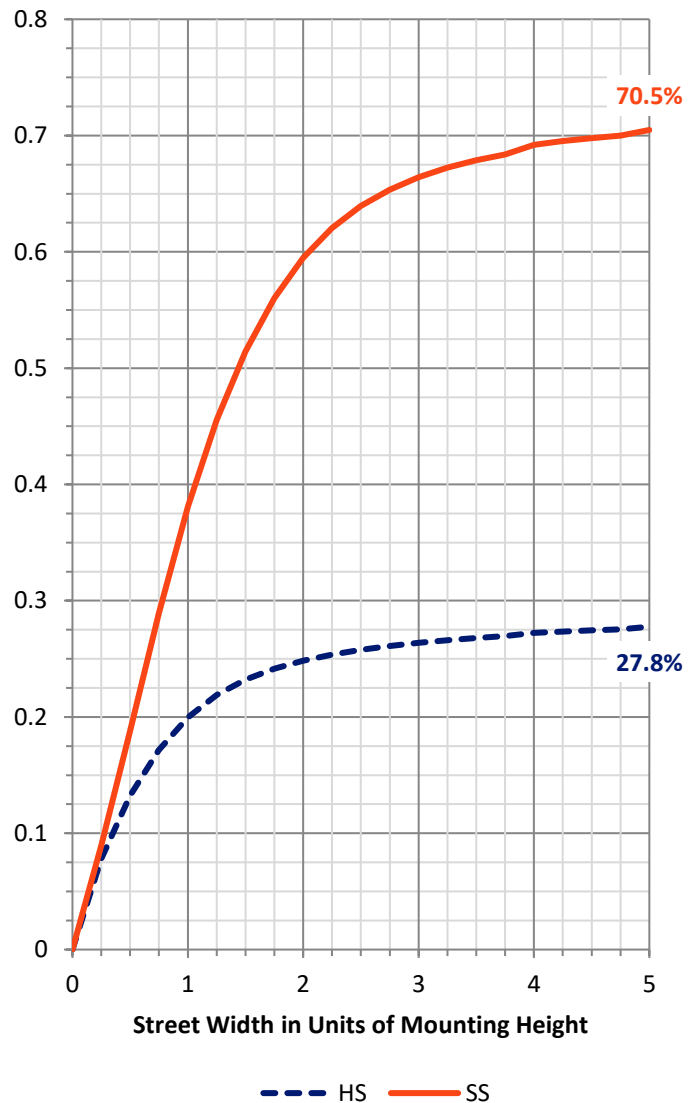
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	396.8	0.0	396.8
	% Fixture	28.5	0.0	28.5
<b>Street Side</b>	Lumens	996.6	0.0	996.6
	% Fixture	71.5	0.0	71.5
<b>Total</b>	Lumens	1393.4	0.0	1393.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.2	1.6
10°-20°	65.2	4.7
20°-30°	113.4	8.1
30°-40°	170.9	12.3
40°-50°	229.7	16.5
50°-60°	282.1	20.2
60°-70°	282.6	20.3
70°-80°	175.7	12.6
80°-90°	51.5	3.7
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°	1393.4	100.0
0°-180°	1393.4	100.0



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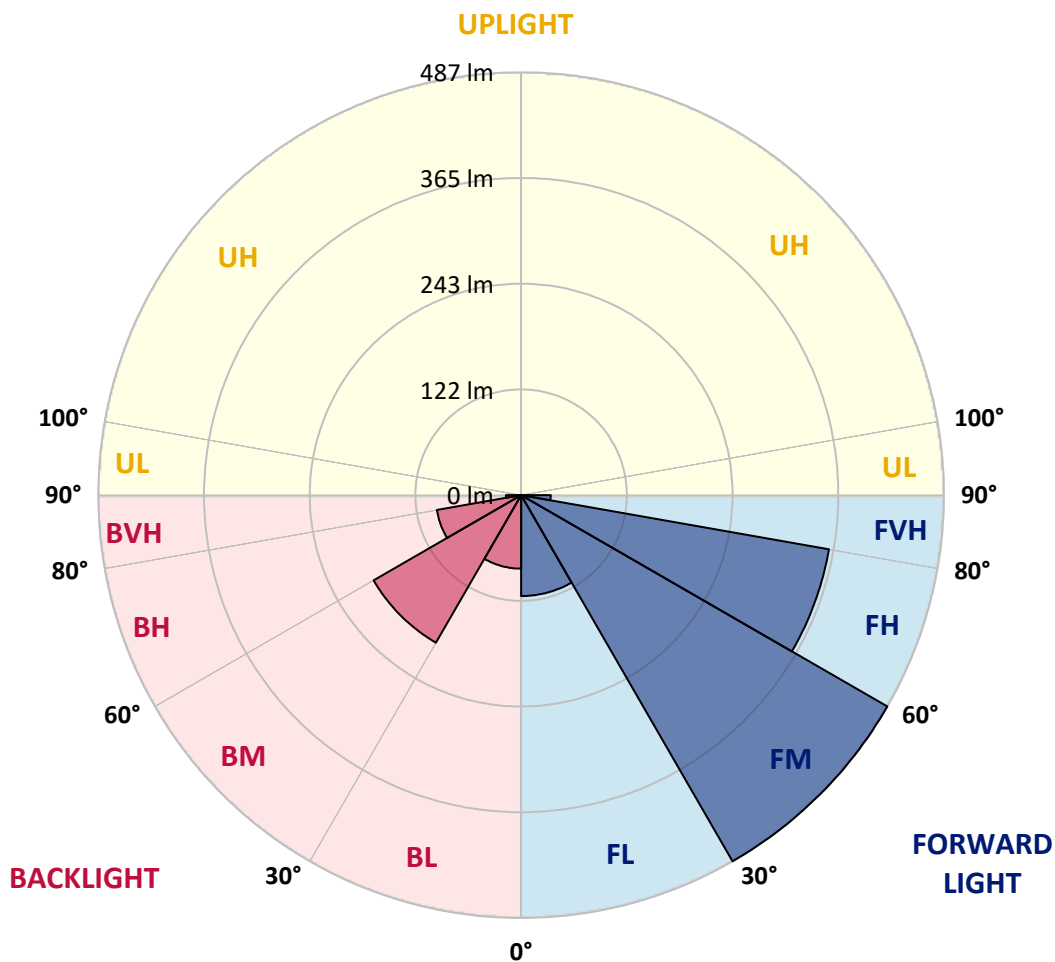
CATALOG NUMBER: EMM2-HSN-SA3A-AMB-U-T4W

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	116.2	8.3			
FM	(30°-60°)	486.6	34.9			
FH	(60°-80°)	359.8	25.8			G0/660
FVH	(80°-90°)	34.0	2.4			G1/100
BL	(0°-30°)	84.6	6.1	B0/110		
BM	(30°-60°)	196.1	14.1	B0/220		
BH	(60°-80°)	98.6	7.1	B0/110		G0/110
BVH	(80°-90°)	17.5	1.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P869239

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

**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4
2.5°	246.0	246.0	246.0	246.0	246.0	246.0	243.7	243.7	243.7	241.4	241.4
5°	243.7	243.7	243.7	246.0	246.0	246.0	246.0	243.7	243.7	241.4	241.4
7.5°	246.0	246.0	246.0	246.0	246.0	243.7	243.7	243.7	241.4	241.4	239.0
10°	250.7	250.7	250.7	250.7	248.4	246.0	243.7	243.7	241.4	239.0	239.0
12.5°	262.4	262.4	262.4	260.1	257.8	253.1	248.4	243.7	241.4	239.0	236.7
15°	278.8	278.8	278.8	276.5	269.5	262.4	253.1	246.0	241.4	239.0	236.7
17.5°	295.3	295.3	295.3	292.9	285.9	276.5	262.4	250.7	241.4	239.0	236.7
20°	309.3	309.3	309.3	307.0	302.3	290.6	276.5	260.1	246.0	239.0	236.7
22.5°	316.3	316.3	316.3	318.7	311.7	304.6	290.6	269.5	250.7	241.4	239.0
25°	325.7	325.7	325.7	325.7	321.0	316.3	304.6	281.2	257.8	246.0	241.4
27.5°	339.8	339.8	339.8	337.4	330.4	325.7	316.3	297.6	269.5	248.4	243.7
30°	365.6	363.2	365.6	358.5	346.8	337.4	330.4	314.0	281.2	253.1	246.0
32.5°	400.7	400.7	400.7	393.7	370.2	353.8	346.8	335.1	297.6	262.4	250.7
35°	433.5	435.8	435.8	426.5	400.7	377.3	365.6	356.2	316.3	269.5	253.1
37.5°	454.6	454.6	454.6	449.9	424.1	405.4	386.6	372.6	328.1	271.8	253.1
40°	475.7	475.7	473.3	466.3	438.2	424.1	403.0	391.3	346.8	278.8	255.4
42.5°	487.4	487.4	482.7	475.7	449.9	440.5	424.1	407.7	367.9	288.2	260.1
45°	506.1	506.1	496.8	487.4	464.0	459.3	445.2	431.2	389.0	299.9	267.1
47.5°	520.2	517.9	506.1	499.1	487.4	473.3	466.3	454.6	412.4	311.7	271.8
50°	522.5	520.2	515.5	510.8	499.1	489.7	482.7	478.0	438.2	323.4	278.8
52.5°	517.9	517.9	520.2	522.5	506.1	506.1	496.8	503.8	466.3	337.4	285.9
55°	534.3	534.3	536.6	536.6	515.5	522.5	515.5	527.2	494.4	349.1	292.9
57.5°	560.0	557.7	555.4	553.0	529.6	539.0	529.6	548.3	524.9	358.5	297.6
60°	569.4	567.1	560.0	555.4	527.2	539.0	536.6	564.7	546.0	363.2	295.3
62.5°	522.5	524.9	520.2	529.6	506.1	522.5	527.2	555.4	555.4	363.2	290.6
65°	442.9	449.9	456.9	475.7	487.4	506.1	517.9	534.3	536.6	351.5	278.8
67.5°	356.2	356.2	365.6	410.1	464.0	494.4	506.1	515.5	499.1	328.1	253.1
70°	283.5	281.2	290.6	346.8	419.4	464.0	475.7	482.7	433.5	285.9	213.2
72.5°	215.6	213.2	225.0	281.2	367.9	426.5	421.8	412.4	353.8	239.0	175.7
75°	157.0	157.0	164.0	217.9	290.6	360.9	358.5	328.1	274.2	187.5	138.3
77.5°	114.8	114.8	121.9	159.3	210.9	269.5	288.2	236.7	196.8	140.6	103.1
80°	89.0	89.0	91.4	117.2	150.0	185.1	210.9	161.7	126.5	98.4	77.3
82.5°	63.3	65.6	68.0	89.0	105.4	121.9	135.9	103.1	79.7	68.0	56.2
85°	42.2	42.2	44.5	63.3	75.0	77.3	86.7	65.6	46.9	46.9	30.5
87.5°	21.1	23.4	23.4	37.5	44.5	42.2	44.5	35.1	21.1	21.1	11.7
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: P869239

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

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4	241.4
2.5°	241.4	241.4	239.0	236.7	236.7	234.3	234.3	234.3	232.0	232.0	232.0
5°	239.0	239.0	234.3	232.0	229.6	225.0	222.6	217.9	217.9	217.9	217.9
7.5°	239.0	236.7	232.0	225.0	220.3	213.2	208.6	206.2	203.9	203.9	203.9
10°	236.7	234.3	227.3	217.9	210.9	203.9	199.2	196.8	194.5	194.5	194.5
12.5°	234.3	232.0	222.6	213.2	203.9	196.8	192.1	192.1	192.1	192.1	192.1
15°	234.3	232.0	220.3	206.2	196.8	192.1	189.8	189.8	192.1	192.1	192.1
17.5°	234.3	229.6	215.6	201.5	192.1	187.5	187.5	189.8	192.1	194.5	196.8
20°	234.3	229.6	213.2	194.5	187.5	185.1	187.5	192.1	194.5	199.2	199.2
22.5°	236.7	229.6	208.6	189.8	182.8	182.8	189.8	194.5	199.2	201.5	203.9
25°	239.0	232.0	206.2	185.1	178.1	180.4	187.5	194.5	199.2	206.2	206.2
27.5°	241.4	234.3	206.2	182.8	173.4	178.1	187.5	194.5	201.5	206.2	208.6
30°	243.7	236.7	206.2	178.1	171.1	173.4	182.8	194.5	199.2	206.2	208.6
32.5°	248.4	239.0	203.9	173.4	166.4	168.7	180.4	192.1	199.2	206.2	208.6
35°	248.4	241.4	203.9	171.1	159.3	164.0	175.7	189.8	196.8	203.9	206.2
37.5°	253.1	248.4	206.2	166.4	154.7	157.0	168.7	187.5	194.5	199.2	201.5
40°	257.8	255.4	206.2	161.7	150.0	152.3	164.0	182.8	189.8	194.5	196.8
42.5°	267.1	264.8	208.6	157.0	142.9	145.3	159.3	178.1	185.1	187.5	187.5
45°	274.2	274.2	208.6	152.3	138.3	142.9	152.3	168.7	178.1	180.4	180.4
47.5°	281.2	281.2	203.9	145.3	133.6	138.3	147.6	161.7	168.7	171.1	173.4
50°	290.6	290.6	199.2	138.3	128.9	133.6	140.6	150.0	157.0	159.3	161.7
52.5°	299.9	299.9	189.8	131.2	124.2	128.9	133.6	140.6	145.3	147.6	150.0
55°	309.3	307.0	180.4	124.2	119.5	124.2	124.2	128.9	133.6	135.9	135.9
57.5°	311.7	309.3	164.0	117.2	114.8	117.2	117.2	119.5	121.9	124.2	124.2
60°	311.7	304.6	150.0	110.1	107.8	107.8	110.1	110.1	112.5	114.8	114.8
62.5°	304.6	290.6	135.9	103.1	100.8	100.8	103.1	103.1	105.4	105.4	105.4
65°	285.9	257.8	121.9	98.4	93.7	93.7	96.1	96.1	98.4	100.8	100.8
67.5°	253.1	215.6	110.1	89.0	86.7	86.7	89.0	91.4	93.7	98.4	98.4
70°	210.9	168.7	96.1	82.0	79.7	79.7	84.4	84.4	89.0	93.7	93.7
72.5°	166.4	131.2	82.0	72.6	72.6	72.6	77.3	79.7	84.4	89.0	89.0
75°	128.9	100.8	72.6	63.3	65.6	65.6	72.6	75.0	79.7	86.7	82.0
77.5°	98.4	79.7	60.9	53.9	56.2	60.9	65.6	70.3	72.6	77.3	75.0
80°	70.3	60.9	49.2	44.5	46.9	51.6	58.6	63.3	65.6	68.0	68.0
82.5°	51.6	44.5	37.5	35.1	37.5	44.5	49.2	56.2	56.2	60.9	60.9
85°	28.1	28.1	25.8	23.4	28.1	32.8	35.1	44.5	46.9	51.6	51.6
87.5°	9.4	9.4	9.4	11.7	14.1	16.4	18.7	25.8	30.5	30.5	25.8
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: SP1-2407-157-1

Test Date: 08/06/2024

Luminaire Tested: MEM2-HTN-SA-45-AMB-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-45-AMB-U-5WQ-2

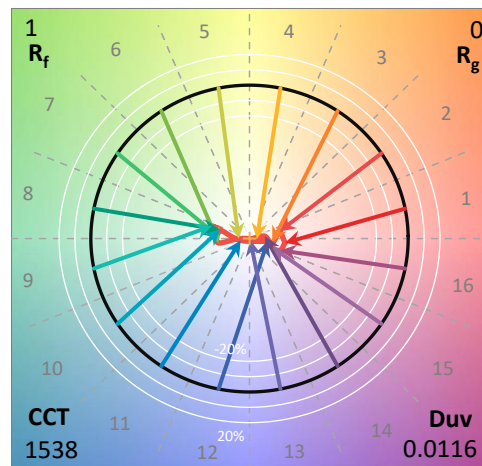
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-157-1  
 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-45-AMB-U-5WQ-2**  
 Description: Epic Modern Light Square 45W 5WQ Optic and Flare Trim AMBER LED

**Spectral Parameters**

CCT (K): 1538  
 CIE u': 0.3530  
 CIE v': 0.5469  
 Duv: 0.0116  
 CIE x: 0.5918  
 CIE y: 0.4076  
 CIE z: 0.0006  
 Peak Wavelength (nm): 597  
 Dominant Wavelength (nm): 592  
 Purity: 99.98881  
 R<sub>f</sub>: 1.1  
 R<sub>g</sub>: 0

CRI (Ra):	-21.8		
R1:	-34.3	R9:	-386.6
R2:	52.3	R10:	28.9
R3:	17.0	R11:	-95.5
R4:	-68.4	R12:	-10.5
R5:	-40.8	R13:	-15.5
R6:	41.5	R14:	45.9
R7:	-7.2	R15:	-67.7
R8:	-134.5		



**Test Conditions**  
 Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2407-157-1

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

REPORT NUMBER: SP1-2407-157-1

CIE 1931 Chromaticity Diagram



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



Point lies outside the range

REPORT NUMBER: SP1-2407-157-1

**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	0	NR	620	30	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	13	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	6	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	3	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	2	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	1	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	1	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	0	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	0	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	0	NR	795	0	NR	925	0	NR
410	0	NR	540	1	NR	670	0	NR	800	0	NR	930	0	NR
415	0	NR	545	3	NR	675	0	NR	805	0	NR	935	0	NR
420	0	NR	550	5	NR	680	0	NR	810	0	NR	940	0	NR
425	0	NR	555	10	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	19	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	34	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	63	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	113	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	199	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	352	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	614	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	954	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	837	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	417	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	179	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	69	NR	745	0	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-1

**Scotopic Flux vs. Wavelength**



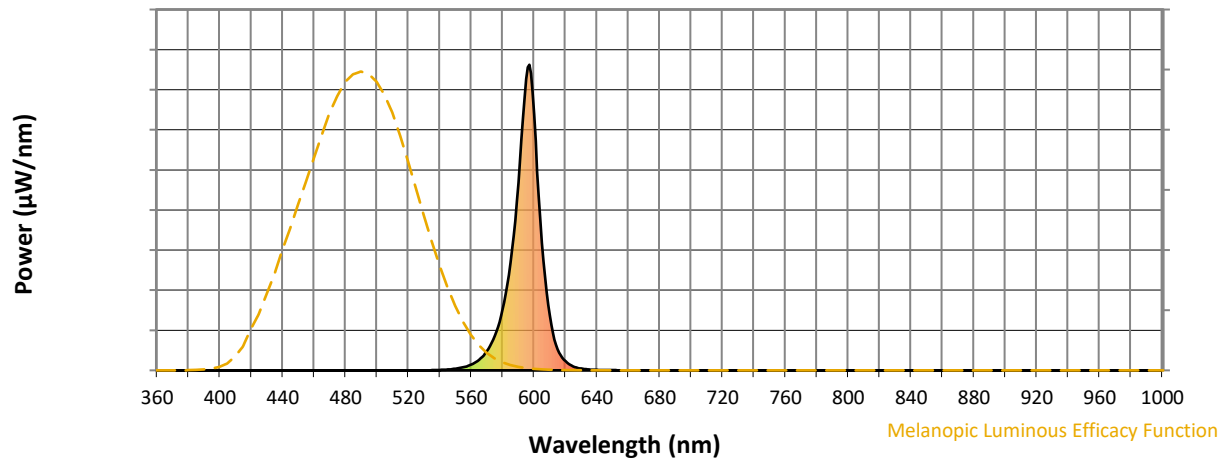
**Scotopic Lumens: NR**

**S/P: 0.22**

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	0	NR	620	30	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	13	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	6	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	3	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	2	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	1	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	1	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	0	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	0	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	0	NR	795	0	NR	925	0	NR
410	0	NR	540	1	NR	670	0	NR	800	0	NR	930	0	NR
415	0	NR	545	3	NR	675	0	NR	805	0	NR	935	0	NR
420	0	NR	550	5	NR	680	0	NR	810	0	NR	940	0	NR
425	0	NR	555	10	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	19	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	34	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	63	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	113	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	199	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	352	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	614	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	954	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	837	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	417	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	179	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	69	NR	745	0	NR	875	0	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 0.12**

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	0	NR	620	30	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	13	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	6	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	3	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	2	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	1	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	1	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	0	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	0	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	0	NR	795	0	NR	925	0	NR
410	0	NR	540	1	NR	670	0	NR	800	0	NR	930	0	NR
415	0	NR	545	3	NR	675	0	NR	805	0	NR	935	0	NR
420	0	NR	550	5	NR	680	0	NR	810	0	NR	940	0	NR
425	0	NR	555	10	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	19	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	34	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	63	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	113	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	199	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	352	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	614	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	954	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	837	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	417	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	179	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	69	NR	745	0	NR	875	0	NR			

**Summary**

$R_f = 1.1$   
 $R_g = 0$   
 $CIE R_a = -21.8$   
 $R_g = -386.6$



**Color Vector Graphics**





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

CES01 = 90	CES26 = 0	CES51 = 17	CES76 = 0
CES02 = 70	CES27 = 32	CES52 = 2	CES77 = 0
CES03 = 31	CES28 = 24	CES53 = 0	CES78 = 0
CES04 = 77	CES29 = 1	CES54 = 12	CES79 = 2
CES05 = 52	CES30 = 31	CES55 = 6	CES80 = 1
CES06 = 56	CES31 = 1	CES56 = 0	CES81 = 0
CES07 = 41	CES32 = 0	CES57 = 0	CES82 = 50
CES08 = 38	CES33 = 21	CES58 = 0	CES83 = 21
CES09 = 29	CES34 = 0	CES59 = 9	CES84 = 54
CES10 = 87	CES35 = 23	CES60 = 60	CES85 = 9
CES11 = 70	CES36 = 77	CES61 = 13	CES86 = 0
CES12 = 76	CES37 = 5	CES62 = 53	CES87 = 2
CES13 = 47	CES38 = 41	CES63 = 68	CES88 = 1
CES14 = 77	CES39 = 75	CES64 = 0	CES89 = 0
CES15 = 74	CES40 = 49	CES65 = 0	CES90 = 2
CES16 = 49	CES41 = 75	CES66 = 0	CES91 = 57
CES17 = 56	CES42 = 0	CES67 = 0	CES92 = 0
CES18 = 60	CES43 = 0	CES68 = 0	CES93 = 2
CES19 = 80	CES44 = 95	CES69 = 27	CES94 = 0
CES20 = 71	CES45 = 1	CES70 = 0	CES95 = 0
CES21 = 94	CES46 = 5	CES71 = 0	CES96 = 2
CES22 = 87	CES47 = 70	CES72 = 42	CES97 = 1
CES23 = 94	CES48 = 0	CES73 = 0	CES98 = 0
CES24 = 95	CES49 = 5	CES74 = 62	CES99 = 0
CES25 = 79	CES50 = 9	CES75 = 0	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)