

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: P880477

Luminaire Tested: **EMM2-HSN-VA6-730-U-CQ**

Issue Date: 10/01/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P880477  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 10/01/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-VA6-730-U-CQ  
Description: EPIC MODERN SHORT HOUSING 6W 70CRI 3000K VISUAL COMFORT FIXTURE w/  
TYPE V CONCENTRATED DISTRIBUTION OPTIC  
Light Source: (1) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

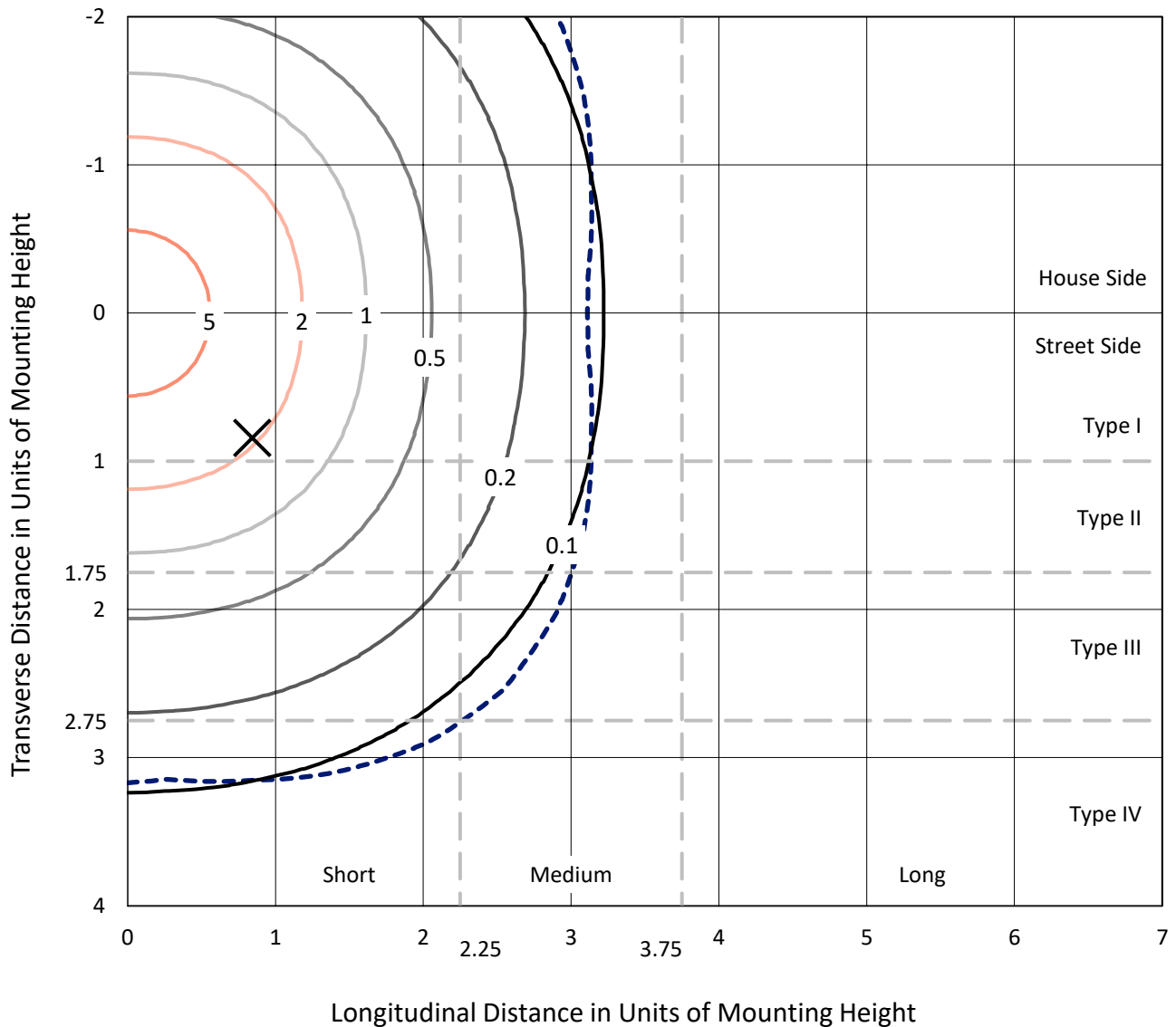
Lumens per Lamp: N/A  
Luminaire Lumens: 7760.3 lumens  
Efficiency: N/A  
Efficacy: 73.2 lumens/watt  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G1

Input Watts (W): 106  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.99  
Total Harmonic Distortion (THDi): 5%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

REPORT NUMBER: P880477  
 CATALOG NUMBER: EMM2-HSN-VA6-730-U-CQ

### Iso-Footcandle Lines of Horizontal Illumination

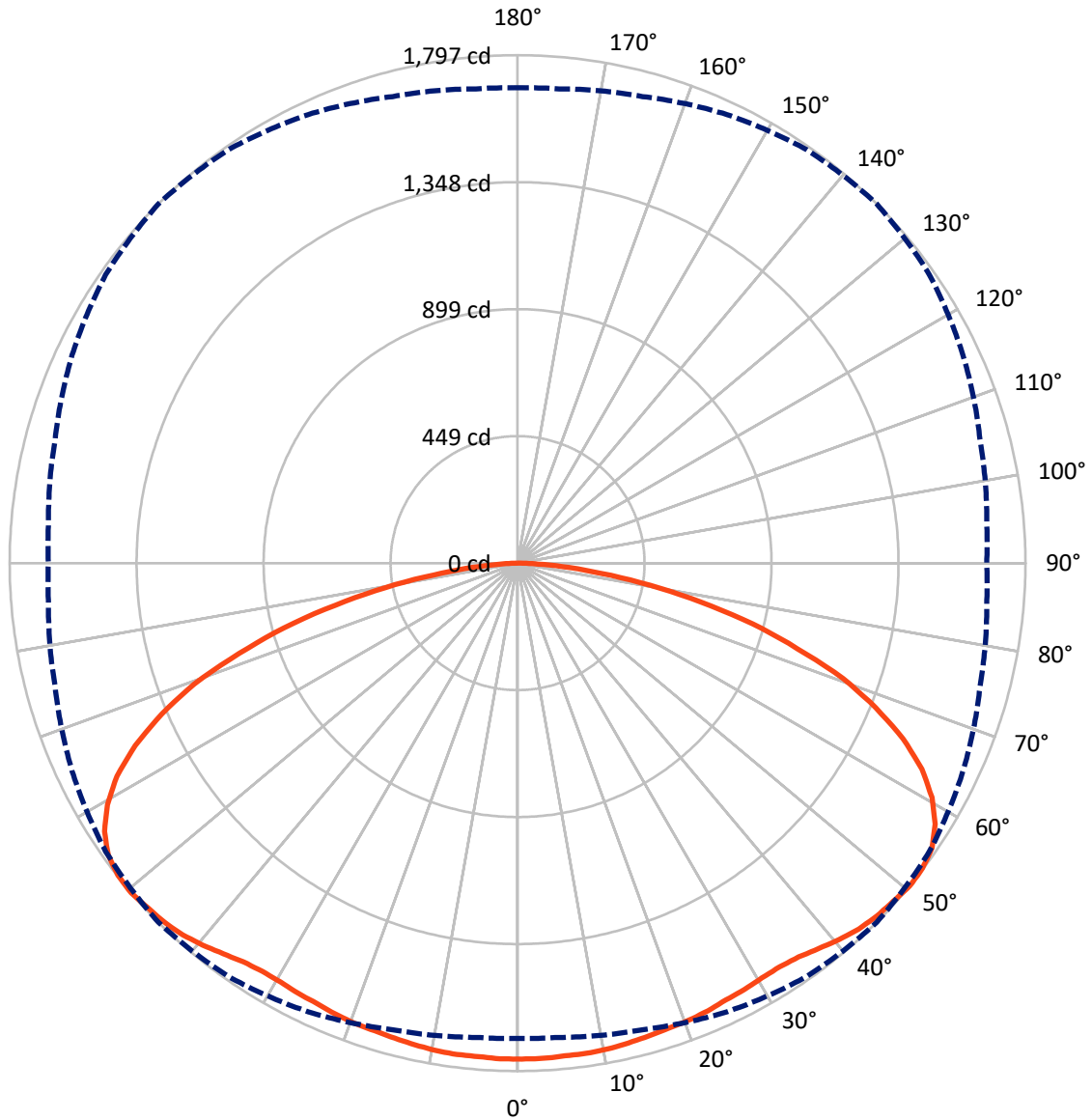
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 7.8 fc  
 Type V - Short - N/A

REPORT NUMBER: P880477  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 50-Deg Vertical

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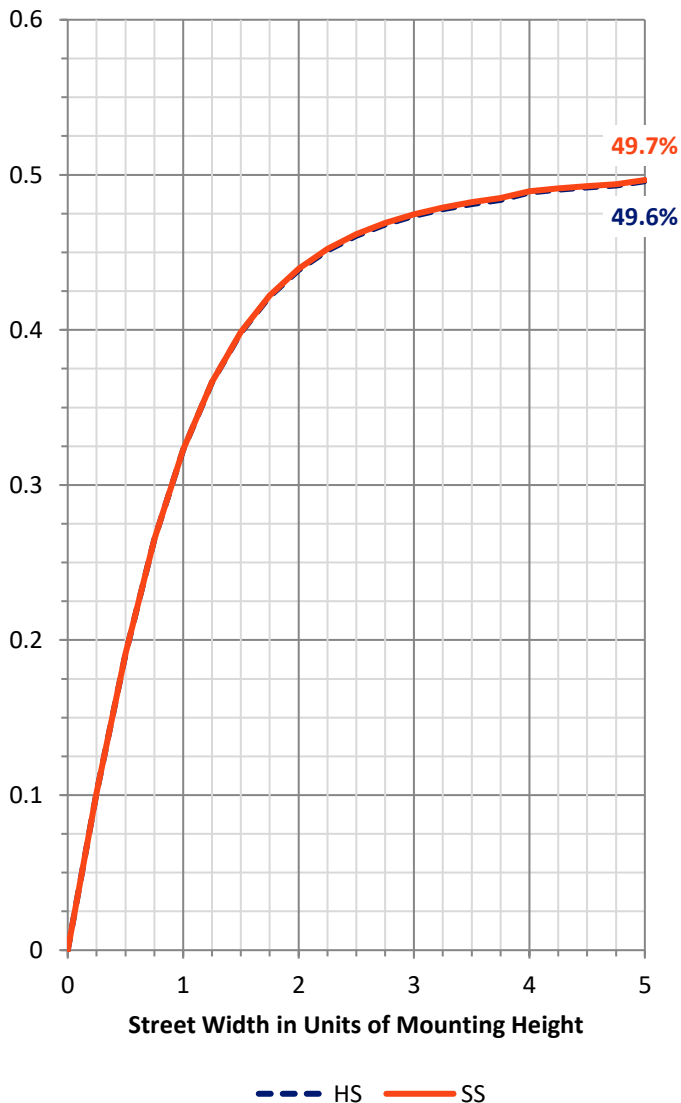
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3880.1	0.0	3880.1
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	3880.1	0.0	3880.1
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	7760.3	0.0	7760.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.2	2.2
10°-20°	491.7	6.3
20°-30°	791.0	10.2
30°-40°	1067.8	13.8
40°-50°	1342.5	17.3
50°-60°	1509.1	19.4
60°-70°	1374.2	17.7
70°-80°	829.8	10.7
80°-90°	187.0	2.4
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°	7760.3	100.0
0°-180°	7760.3	100.0



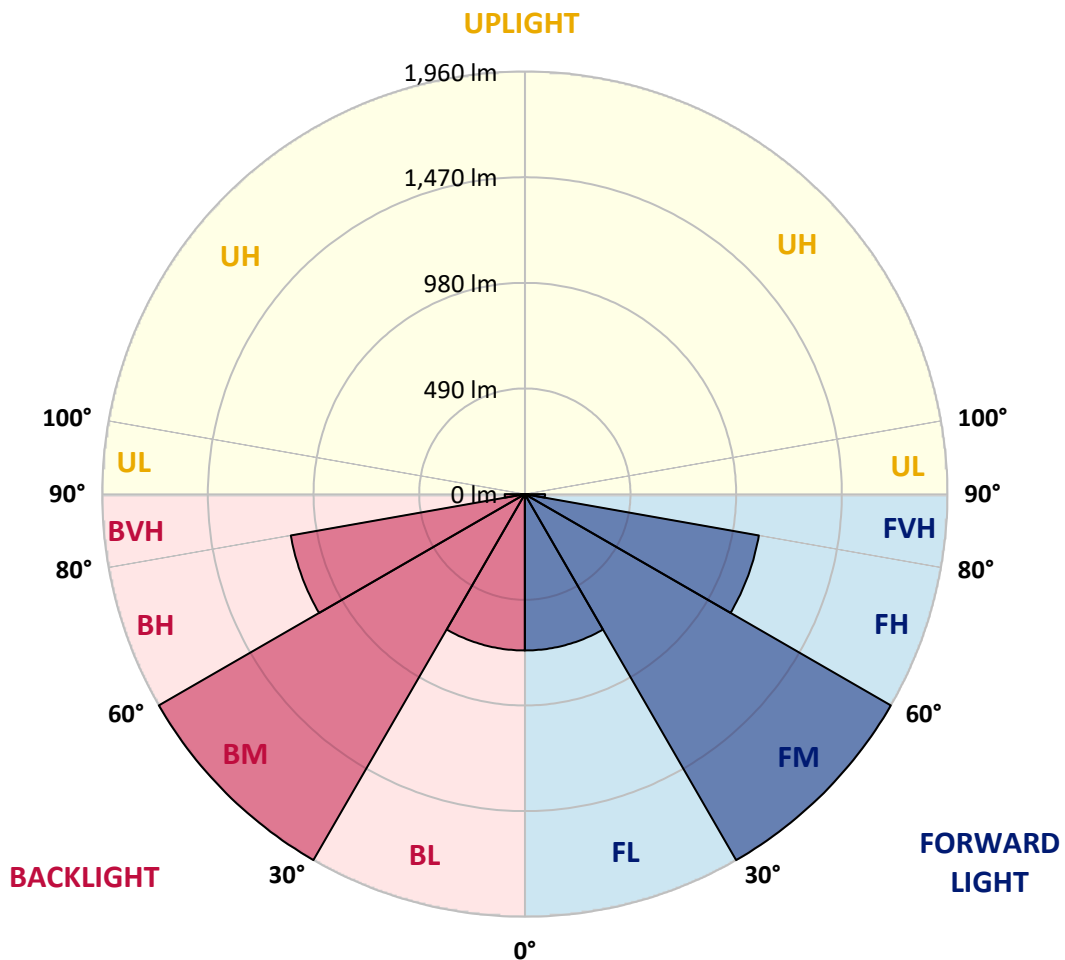
REPORT NUMBER: P880477  
 CATALOG NUMBER: EMM2-HSN-VA6-730-U-CQ

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	724.9	9.3			
FM (30°-60°)	1959.7	25.3			
FH (60°-80°)	1102.0	14.2			G1/1800
FVH (80°-90°)	93.5	1.2			G1/100
BL (0°-30°)	724.9	9.3	B2/1000		
BM (30°-60°)	1959.7	25.3	B2/2500		
BH (60°-80°)	1102.0	14.2	B3/2500		G1/1800
BVH (80°-90°)	93.5	1.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G1**

Type V Short





REPORT NUMBER: P880477

CATALOG NUMBER: EMM2-HSN-VA6-730-U-CQ

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7
2.5°	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7	1754.7
5°	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1754.7
7.5°	1748.6	1751.6	1751.6	1748.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6	1751.6
10°	1745.5	1745.5	1748.6	1748.6	1748.6	1748.6	1748.6	1748.6	1748.6	1748.6	1745.5
12.5°	1739.4	1742.5	1742.5	1742.5	1742.5	1742.5	1742.5	1742.5	1742.5	1742.5	1742.5
15°	1736.4	1736.4	1736.4	1736.4	1736.4	1736.4	1736.4	1736.4	1733.4	1733.4	1736.4
17.5°	1727.3	1727.3	1730.3	1730.3	1730.3	1730.3	1730.3	1730.3	1727.3	1727.3	1727.3
20°	1721.2	1721.2	1724.2	1724.2	1724.2	1727.3	1724.2	1721.2	1721.2	1721.2	1721.2
22.5°	1715.1	1715.1	1718.1	1718.1	1721.2	1721.2	1718.1	1718.1	1715.1	1715.1	1715.1
25°	1709.0	1709.0	1709.0	1712.0	1715.1	1712.0	1712.0	1709.0	1705.9	1702.9	1702.9
27.5°	1699.8	1699.8	1699.8	1705.9	1705.9	1709.0	1705.9	1702.9	1696.8	1693.8	1693.8
30°	1690.7	1690.7	1693.8	1699.8	1702.9	1702.9	1699.8	1693.8	1687.7	1684.6	1684.6
32.5°	1681.6	1684.6	1687.7	1696.8	1699.8	1702.9	1696.8	1690.7	1681.6	1675.5	1675.5
35°	1681.6	1681.6	1690.7	1699.8	1709.0	1712.0	1705.9	1693.8	1681.6	1672.4	1672.4
37.5°	1684.6	1687.7	1699.8	1712.0	1724.2	1730.3	1721.2	1705.9	1687.7	1675.5	1675.5
40°	1696.8	1696.8	1712.0	1733.4	1748.6	1751.6	1742.5	1721.2	1696.8	1681.6	1678.5
42.5°	1702.9	1705.9	1721.2	1745.5	1763.8	1769.9	1757.7	1733.4	1702.9	1681.6	1678.5
45°	1702.9	1705.9	1724.2	1751.6	1776.0	1782.1	1769.9	1739.4	1705.9	1684.6	1678.5
47.5°	1693.8	1696.8	1721.2	1754.7	1782.1	1788.2	1773.0	1742.5	1702.9	1678.5	1672.4
50°	1681.6	1684.6	1709.0	1751.6	1785.1	1797.3	1779.1	1739.4	1693.8	1666.3	1660.2
52.5°	1657.2	1660.2	1693.8	1739.4	1782.1	1794.3	1773.0	1730.3	1675.5	1645.0	1638.9
55°	1620.6	1626.7	1660.2	1715.1	1763.8	1779.1	1754.7	1705.9	1648.1	1611.5	1605.4
57.5°	1571.9	1574.9	1614.5	1675.5	1727.3	1742.5	1718.1	1666.3	1602.4	1562.8	1559.7
60°	1501.8	1507.9	1553.6	1614.5	1669.4	1684.6	1660.2	1605.4	1538.4	1495.7	1492.7
62.5°	1416.5	1422.6	1465.3	1535.3	1590.2	1605.4	1581.0	1523.2	1456.1	1410.4	1407.4
65°	1309.9	1316.0	1358.7	1425.7	1483.6	1498.8	1477.5	1416.5	1349.5	1306.9	1300.8
67.5°	1191.1	1197.2	1236.8	1294.7	1346.5	1367.8	1346.5	1294.7	1230.7	1178.9	1172.8
70°	1047.9	1047.9	1087.5	1145.4	1194.2	1221.6	1194.2	1142.4	1078.4	1035.7	1035.7
72.5°	898.7	892.6	929.1	984.0	1023.6	1035.7	1029.7	984.0	923.0	883.4	877.3
75°	718.9	731.1	758.5	798.1	840.8	859.1	837.7	798.1	755.5	722.0	718.9
77.5°	557.5	566.6	591.0	624.5	648.9	661.1	655.0	624.5	578.8	563.6	557.5
80°	393.0	399.1	420.4	444.8	463.0	475.2	466.1	441.7	417.3	402.1	396.0
82.5°	255.9	252.8	271.1	286.4	301.6	298.5	295.5	277.2	268.1	255.9	252.8
85°	131.0	134.0	134.0	149.3	152.3	158.4	155.4	149.3	134.0	127.9	131.0
87.5°	42.6	42.6	45.7	45.7	51.8	51.8	54.8	48.7	45.7	39.6	39.6
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: SP1-2407-176-3

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-730-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-730-U-WQ



**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-176-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 09/27/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-VA-30-730-U-WQ**  
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

**Spectral Parameters**

CCT (K): 2986  
 CIE u': 0.2503  
 CIE v': 0.5248  
 Duv: 0.0022  
 CIE x: 0.4413  
 CIE y: 0.4112  
 CIE z: 0.1476  
 Peak Wavelength (nm): 596  
 Dominant Wavelength (nm): 582  
 Purity: 55.87534  
 Rf: 73.2  
 Rg: 95.9

CRI (Ra):	71.3		
R1:	68.5	R9:	-25.2
R2:	79.2	R10:	51.0
R3:	88.4	R11:	63.6
R4:	69.4	R12:	39.8
R5:	66.3	R13:	69.9
R6:	70.0	R14:	92.9
R7:	80.1	R15:	61.4
R8:	48.3		



**Test Conditions**

Stabilization Time: 27M  
 Operation Time: 1H 27M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-3

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 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-3

**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	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-3

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.15

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	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.01

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	61	NR	620	859	NR	750	28	NR	880	0	NR
365	0	NR	495	88	NR	625	807	NR	755	25	NR	885	0	NR
370	0	NR	500	137	NR	630	753	NR	760	22	NR	890	0	NR
375	0	NR	505	205	NR	635	697	NR	765	19	NR	895	0	NR
380	0	NR	510	281	NR	640	637	NR	770	16	NR	900	0	NR
385	0	NR	515	363	NR	645	578	NR	775	14	NR	905	0	NR
390	0	NR	520	432	NR	650	520	NR	780	12	NR	910	0	NR
395	1	NR	525	492	NR	655	463	NR	785	10	NR	915	0	NR
400	2	NR	530	539	NR	660	409	NR	790	9	NR	920	0	NR
405	4	NR	535	579	NR	665	359	NR	795	8	NR	925	0	NR
410	9	NR	540	613	NR	670	315	NR	800	6	NR	930	0	NR
415	18	NR	545	648	NR	675	274	NR	805	6	NR	935	0	NR
420	39	NR	550	680	NR	680	239	NR	810	5	NR	940	0	NR
425	81	NR	555	717	NR	685	207	NR	815	4	NR	945	0	NR
430	151	NR	560	759	NR	690	180	NR	820	4	NR	950	0	NR
435	263	NR	565	803	NR	695	155	NR	825	3	NR	955	0	NR
440	375	NR	570	848	NR	700	133	NR	830	3	NR	960	0	NR
445	474	NR	575	892	NR	705	114	NR	835	3	NR	965	0	NR
450	571	NR	580	933	NR	710	97	NR	840	2	NR	970	0	NR
455	421	NR	585	966	NR	715	81	NR	845	2	NR	975	0	NR
460	214	NR	590	991	NR	720	67	NR	850	2	NR	980	0	NR
465	146	NR	595	998	NR	725	55	NR	855	1	NR	985	0	NR
470	101	NR	600	995	NR	730	47	NR	860	1	NR	990	0	NR
475	64	NR	605	977	NR	735	40	NR	865	1	NR	995	0	NR
480	52	NR	610	949	NR	740	35	NR	870	1	NR	1000	0	NR
485	53	NR	615	908	NR	745	31	NR	875	1	NR			

**Summary**

$R_f = 73.2$   
 $R_g = 95.9$   
 $CIE R_a = 71.3$   
 $R_9 = -25.2$



**Color Vector Graphics**



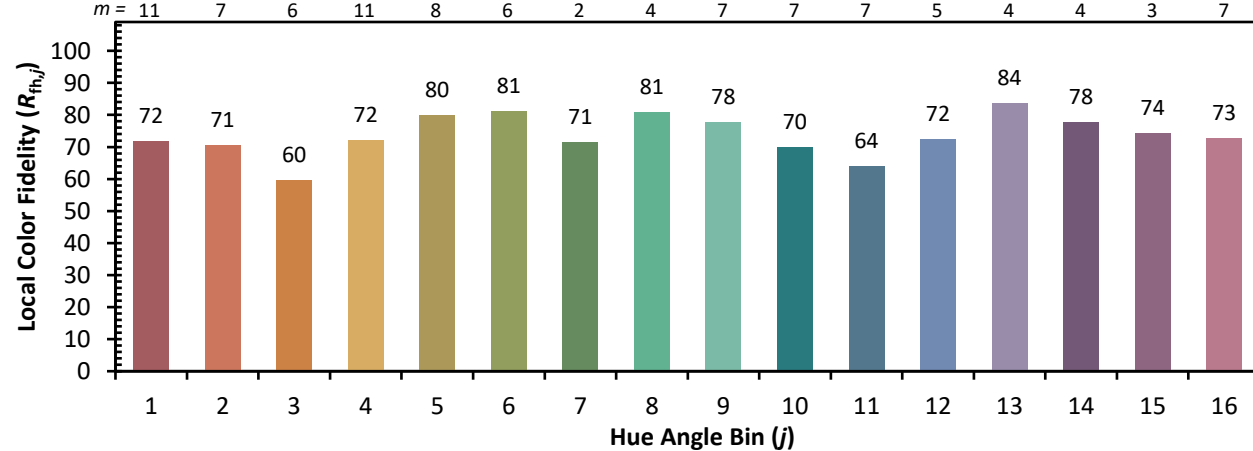
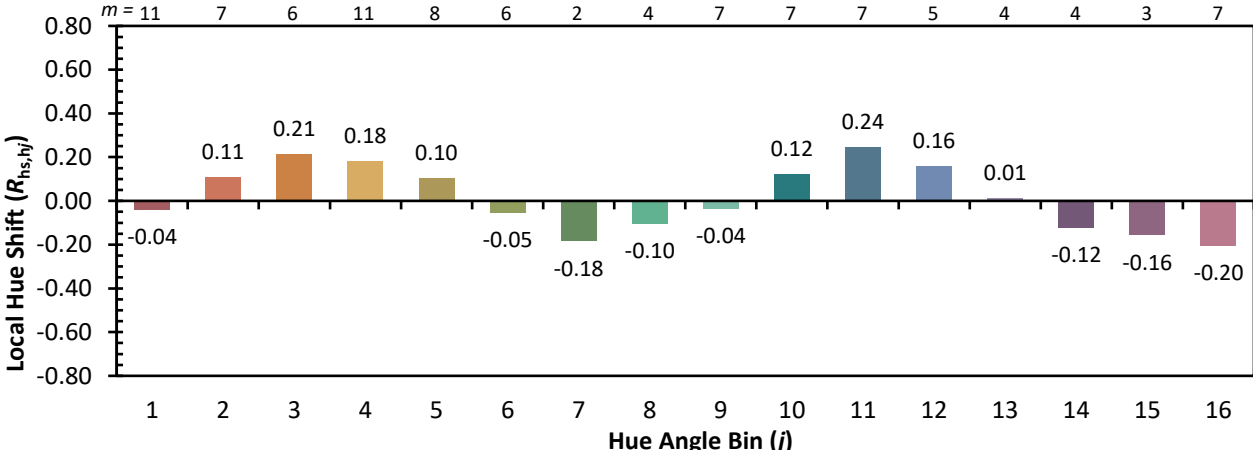
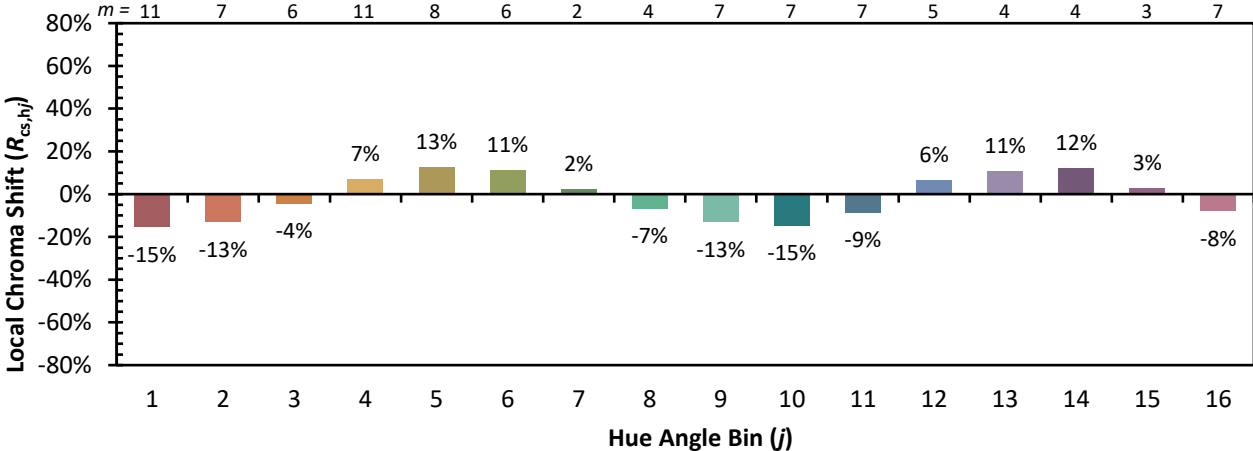
Individual Sample Fidelity Index ( $R_{f,i}$ )

CES01 = 86	CES26 = 61	CES51 = 84	CES76 = 51
CES02 = 62	CES27 = 85	CES52 = 84	CES77 = 74
CES03 = 31	CES28 = 82	CES53 = 73	CES78 = 56
CES04 = 71	CES29 = 59	CES54 = 84	CES79 = 83
CES05 = 49	CES30 = 71	CES55 = 82	CES80 = 81
CES06 = 51	CES31 = 63	CES56 = 70	CES81 = 75
CES07 = 41	CES32 = 57	CES57 = 69	CES82 = 92
CES08 = 40	CES33 = 69	CES58 = 71	CES83 = 88
CES09 = 29	CES34 = 70	CES59 = 85	CES84 = 88
CES10 = 76	CES35 = 84	CES60 = 91	CES85 = 79
CES11 = 59	CES36 = 98	CES61 = 83	CES86 = 67
CES12 = 65	CES37 = 78	CES62 = 87	CES87 = 77
CES13 = 43	CES38 = 79	CES63 = 71	CES88 = 78
CES14 = 74	CES39 = 94	CES64 = 66	CES89 = 68
CES15 = 71	CES40 = 89	CES65 = 64	CES90 = 76
CES16 = 47	CES41 = 87	CES66 = 59	CES91 = 86
CES17 = 50	CES42 = 80	CES67 = 57	CES92 = 63
CES18 = 56	CES43 = 73	CES68 = 66	CES93 = 77
CES19 = 73	CES44 = 99	CES69 = 75	CES94 = 53
CES20 = 66	CES45 = 81	CES70 = 58	CES95 = 70
CES21 = 87	CES46 = 77	CES71 = 54	CES96 = 78
CES22 = 79	CES47 = 77	CES72 = 84	CES97 = 82
CES23 = 92	CES48 = 68	CES73 = 49	CES98 = 75
CES24 = 91	CES49 = 74	CES74 = 98	CES99 = 65
CES25 = 73	CES50 = 83	CES75 = 56	

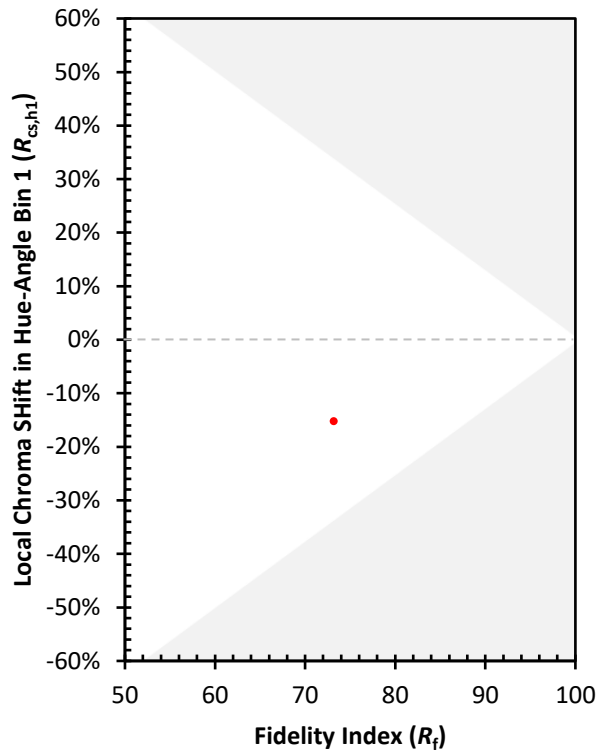




Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)