

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: P880495

Luminaire Tested: **EMM2-HSN-VA6-750-U-CQ**

Issue Date: 10/01/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P880495  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 10/01/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: EMM2-HSN-VA6-750-U-CQ  
Description: EPIC MODERN SHORT HOUSING 6W 70CRI 5000K VISUAL COMFORT FIXTURE w/  
TYPE V CONCENTRATED DISTRIBUTION OPTIC  
Light Source: (1) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

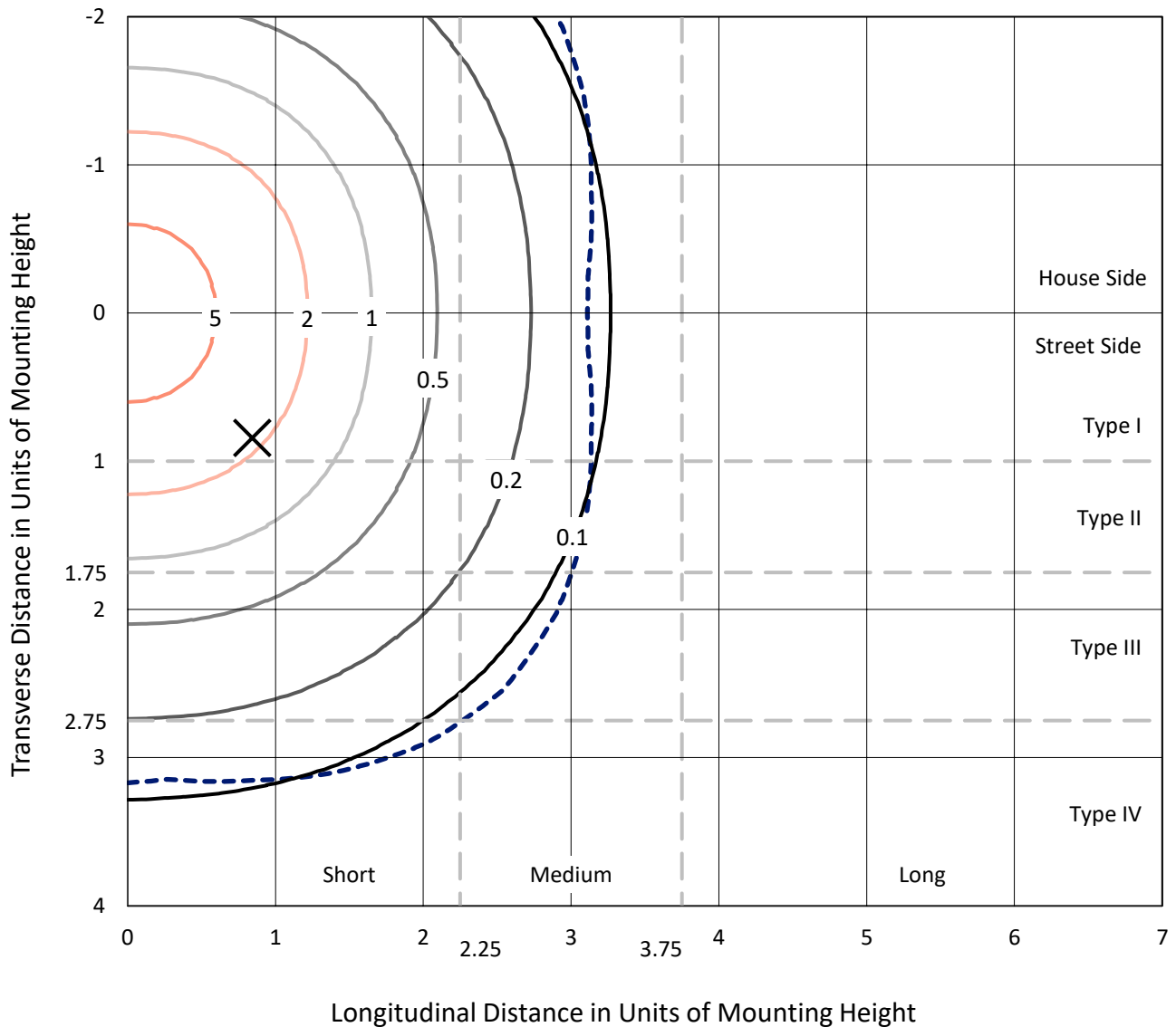
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8211.9 lumens  
Efficiency: N/A  
Efficacy: 77.5 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: P880495  
 CATALOG NUMBER: EMM2-HSN-VA6-750-U-CQ

### Iso-Footcandle Lines of Horizontal Illumination

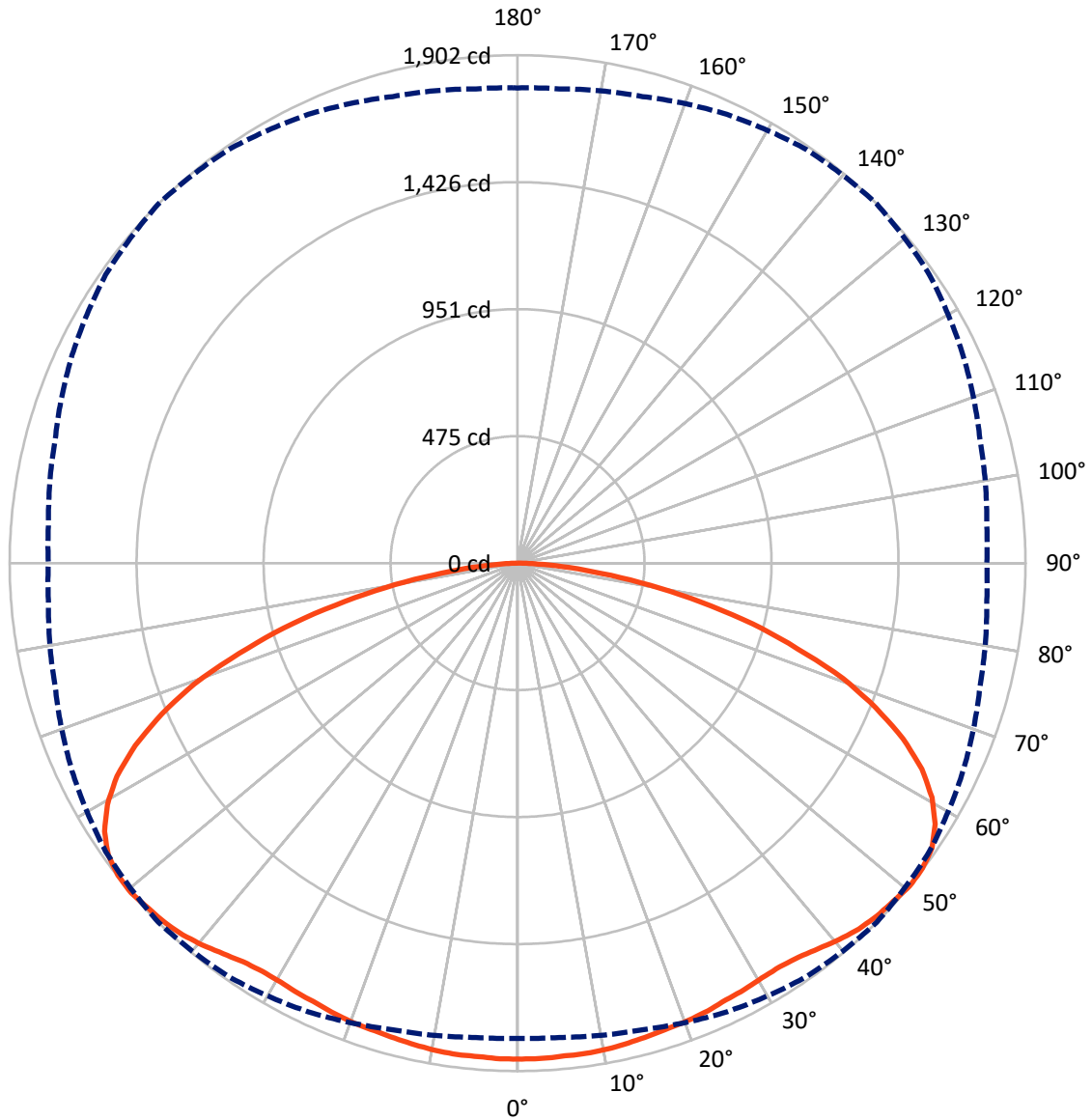
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 8.3 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



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

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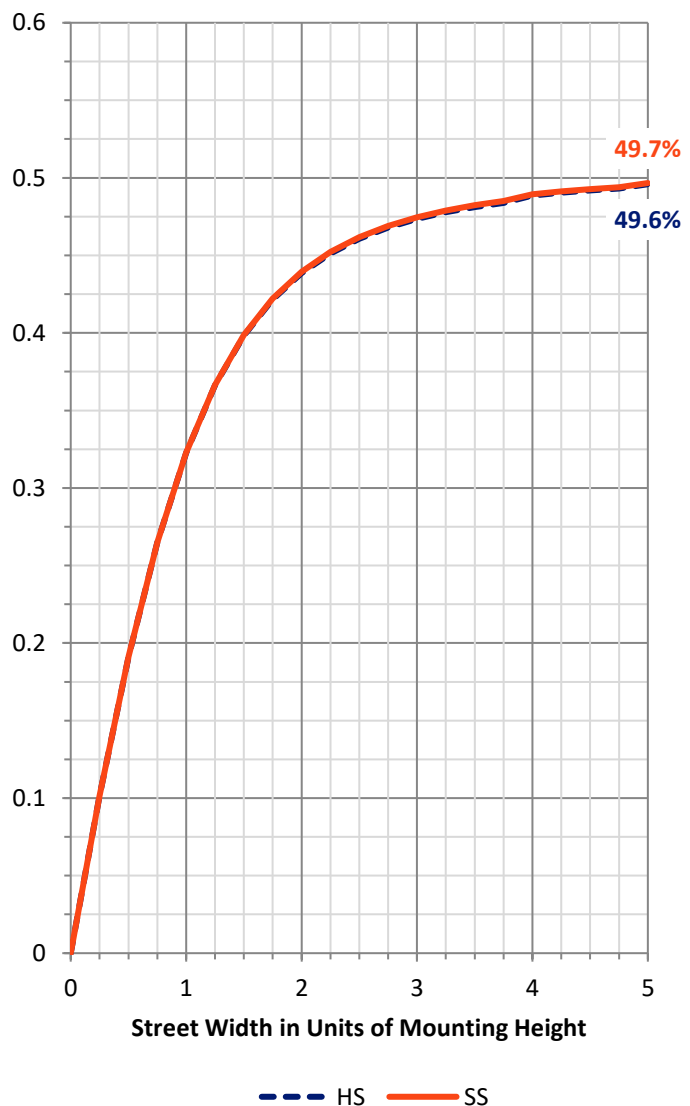
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4106.0	0.0	4106.0
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	4106.0	0.0	4106.0
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	8211.9	0.0	8211.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.9	2.2
10°-20°	520.3	6.3
20°-30°	837.0	10.2
30°-40°	1130.0	13.8
40°-50°	1420.6	17.3
50°-60°	1596.9	19.4
60°-70°	1454.2	17.7
70°-80°	878.1	10.7
80°-90°	197.9	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°	8211.9	100.0
0°-180°	8211.9	100.0



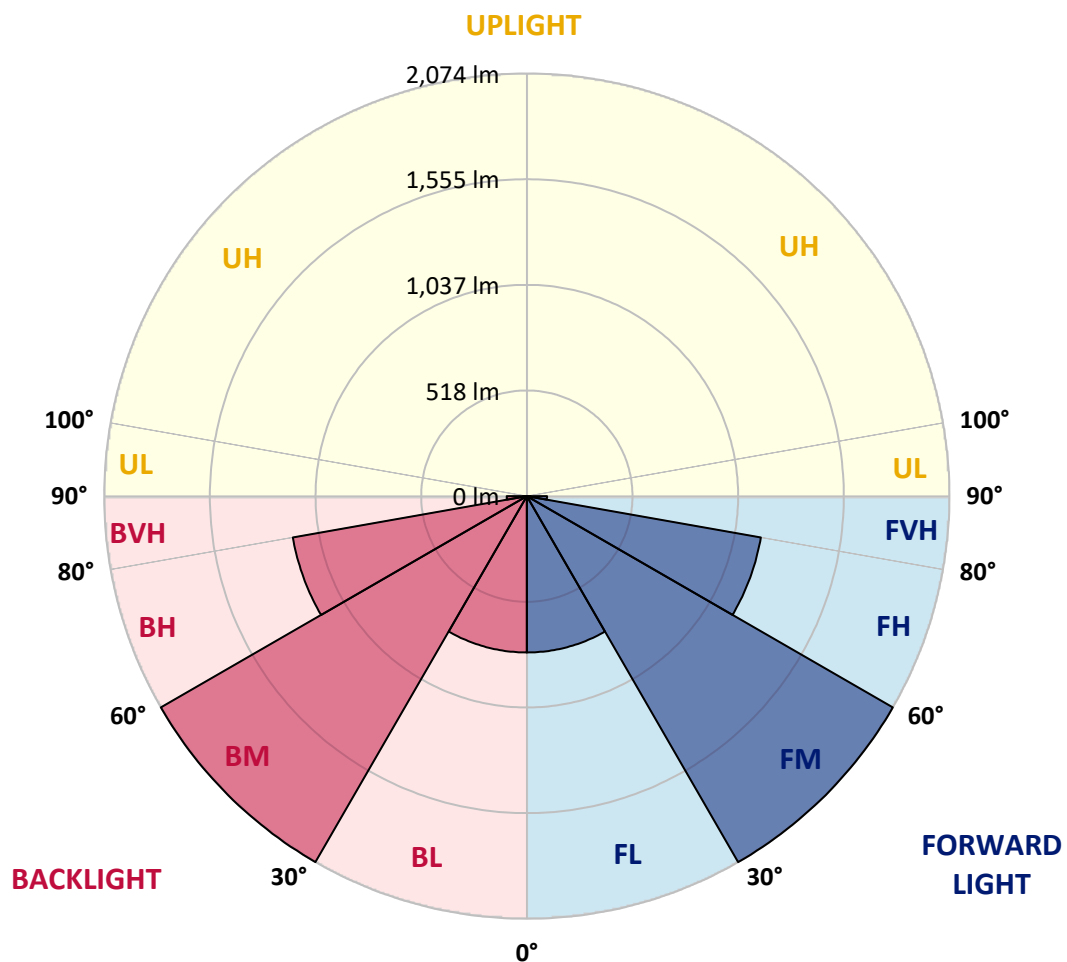
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	767.1	9.3			
FM	(30°-60°)	2073.8	25.3			
FH	(60°-80°)	1166.1	14.2			G1/1800
FVH	(80°-90°)	99.0	1.2			G1/100
BL	(0°-30°)	767.1	9.3	B2/1000		
BM	(30°-60°)	2073.8	25.3	B2/2500		
BH	(60°-80°)	1166.1	14.2	B3/2500		G1/1800
BVH	(80°-90°)	99.0	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





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CATALOG NUMBER: EMM2-HSN-VA6-750-U-CQ

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8
2.5°	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8	1856.8
5°	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1856.8
7.5°	1850.4	1853.6	1853.6	1850.4	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6	1853.6
10°	1847.1	1847.1	1850.4	1850.4	1850.4	1850.4	1850.4	1850.4	1850.4	1850.4	1847.1
12.5°	1840.7	1843.9	1843.9	1843.9	1843.9	1843.9	1843.9	1843.9	1843.9	1843.9	1843.9
15°	1837.5	1837.5	1837.5	1837.5	1837.5	1837.5	1837.5	1837.5	1834.2	1834.2	1837.5
17.5°	1827.8	1827.8	1831.0	1831.0	1831.0	1831.0	1831.0	1831.0	1827.8	1827.8	1827.8
20°	1821.3	1821.3	1824.6	1824.6	1824.6	1824.6	1824.6	1821.3	1821.3	1821.3	1821.3
22.5°	1814.9	1814.9	1818.1	1818.1	1821.3	1821.3	1818.1	1818.1	1814.9	1814.9	1814.9
25°	1808.5	1808.5	1808.5	1811.7	1814.9	1811.7	1811.7	1808.5	1805.2	1802.0	1802.0
27.5°	1798.8	1798.8	1798.8	1805.2	1805.2	1808.5	1805.2	1802.0	1795.6	1792.3	1792.3
30°	1789.1	1789.1	1792.3	1798.8	1802.0	1802.0	1798.8	1792.3	1785.9	1782.7	1782.7
32.5°	1779.4	1782.7	1785.9	1795.6	1798.8	1802.0	1795.6	1789.1	1779.4	1773.0	1773.0
35°	1779.4	1779.4	1789.1	1798.8	1808.5	1811.7	1805.2	1792.3	1779.4	1769.8	1769.8
37.5°	1782.7	1785.9	1798.8	1811.7	1824.6	1831.0	1821.3	1805.2	1785.9	1773.0	1773.0
40°	1795.6	1795.6	1811.7	1834.2	1850.4	1853.6	1843.9	1821.3	1795.6	1779.4	1776.2
42.5°	1802.0	1805.2	1821.3	1847.1	1866.5	1872.9	1860.0	1834.2	1802.0	1779.4	1776.2
45°	1802.0	1805.2	1824.6	1853.6	1879.4	1885.8	1872.9	1840.7	1805.2	1782.7	1776.2
47.5°	1792.3	1795.6	1821.3	1856.8	1885.8	1892.3	1876.1	1843.9	1802.0	1776.2	1769.8
50°	1779.4	1782.7	1808.5	1853.6	1889.0	1901.9	1882.6	1840.7	1792.3	1763.3	1756.9
52.5°	1753.6	1756.9	1792.3	1840.7	1885.8	1898.7	1876.1	1831.0	1773.0	1740.8	1734.3
55°	1715.0	1721.4	1756.9	1814.9	1866.5	1882.6	1856.8	1805.2	1744.0	1705.3	1698.8
57.5°	1663.4	1666.6	1708.5	1773.0	1827.8	1843.9	1818.1	1763.3	1695.6	1653.7	1650.5
60°	1589.2	1595.7	1644.0	1708.5	1766.5	1782.7	1756.9	1698.8	1627.9	1582.8	1579.6
62.5°	1499.0	1505.4	1550.6	1624.7	1682.7	1698.8	1673.1	1611.8	1540.9	1492.5	1489.3
65°	1386.2	1392.6	1437.7	1508.7	1569.9	1586.0	1563.5	1499.0	1428.1	1382.9	1376.5
67.5°	1260.4	1266.9	1308.8	1370.0	1424.8	1447.4	1424.8	1370.0	1302.3	1247.5	1241.1
70°	1108.9	1108.9	1150.8	1212.1	1263.7	1292.7	1263.7	1208.9	1141.2	1096.0	1096.0
72.5°	951.0	944.5	983.2	1041.2	1083.1	1096.0	1089.6	1041.2	976.8	934.8	928.4
75°	760.8	773.7	802.7	844.6	889.7	909.1	886.5	844.6	799.5	764.0	760.8
77.5°	589.9	599.6	625.4	660.8	686.6	699.5	693.1	660.8	612.5	596.4	589.9
80°	415.8	422.3	444.9	470.6	490.0	502.9	493.2	467.4	441.6	425.5	419.1
82.5°	270.8	267.6	286.9	303.0	319.1	315.9	312.7	293.3	283.7	270.8	267.6
85°	138.6	141.8	141.8	158.0	161.2	167.6	164.4	158.0	141.8	135.4	138.6
87.5°	45.1	45.1	48.4	48.4	54.8	54.8	58.0	51.6	48.4	41.9	41.9
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: SP1-2407-176-6

Test Date: 09/26/2024

Luminaire Tested: MEM2-HTN-VA-30-750-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-750-U-WQ



**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-176-6  
 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-30-750-U-WQ**  
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

**Spectral Parameters**

CCT (K): 4786  
 CIE u': 0.2093  
 CIE v': 0.4953  
 Duv: 0.0066  
 CIE x: 0.3533  
 CIE y: 0.3716  
 CIE z: 0.2751  
 Peak Wavelength (nm): 449  
 Dominant Wavelength (nm): 570  
 Purity: 17.53512  
 Rf: 73  
 Rg: 94.6

CRI (Ra):	70.9		
R1:	67.8	R9:	-29.8
R2:	75.1	R10:	40.9
R3:	80.6	R11:	67.4
R4:	71.6	R12:	35.3
R5:	67.8	R13:	68.5
R6:	65.4	R14:	89.0
R7:	82.0	R15:	60.9
R8:	57.0		



**Test Conditions**

Stabilization Time: 45M  
 Operation Time: 1H 45M  
 Sphere Temperature (°C): 25.2

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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**



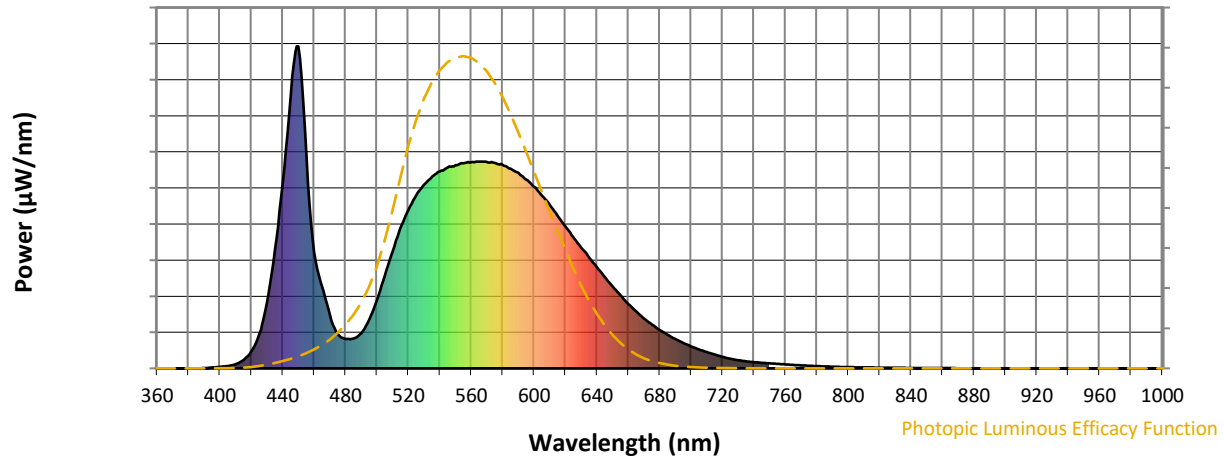
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 7-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	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR S/P: 1.69**

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	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 3.36**

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	110	NR	620	440	NR	750	16	NR	880	0	NR
365	0	NR	495	150	NR	625	407	NR	755	14	NR	885	0	NR
370	0	NR	500	213	NR	630	375	NR	760	12	NR	890	0	NR
375	0	NR	505	288	NR	635	345	NR	765	11	NR	895	0	NR
380	0	NR	510	364	NR	640	314	NR	770	9	NR	900	0	NR
385	0	NR	515	436	NR	645	283	NR	775	8	NR	905	0	NR
390	1	NR	520	492	NR	650	254	NR	780	7	NR	910	0	NR
395	3	NR	525	537	NR	655	227	NR	785	6	NR	915	0	NR
400	5	NR	530	570	NR	660	200	NR	790	5	NR	920	0	NR
405	7	NR	535	595	NR	665	177	NR	795	4	NR	925	0	NR
410	13	NR	540	611	NR	670	155	NR	800	4	NR	930	0	NR
415	25	NR	545	624	NR	675	136	NR	805	3	NR	935	0	NR
420	52	NR	550	631	NR	680	119	NR	810	3	NR	940	0	NR
425	106	NR	555	637	NR	685	104	NR	815	3	NR	945	0	NR
430	204	NR	560	640	NR	690	91	NR	820	2	NR	950	0	NR
435	369	NR	565	642	NR	695	79	NR	825	2	NR	955	0	NR
440	573	NR	570	641	NR	700	68	NR	830	2	NR	960	0	NR
445	844	NR	575	638	NR	705	59	NR	835	2	NR	965	0	NR
450	999	NR	580	632	NR	710	50	NR	840	1	NR	970	0	NR
455	668	NR	585	620	NR	715	43	NR	845	1	NR	975	0	NR
460	361	NR	590	607	NR	720	36	NR	850	1	NR	980	0	NR
465	255	NR	595	586	NR	725	30	NR	855	1	NR	985	0	NR
470	165	NR	600	564	NR	730	25	NR	860	1	NR	990	0	NR
475	106	NR	605	537	NR	735	22	NR	865	1	NR	995	0	NR
480	91	NR	610	507	NR	740	19	NR	870	0	NR	1000	0	NR
485	93	NR	615	474	NR	745	17	NR	875	0	NR			

**Summary**

$R_f = 73$   
 $R_g = 94.6$   
 $CIE R_a = 70.9$   
 $R_g = -29.8$



**Color Vector Graphics**



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

CES01 = 85	CES26 = 60	CES51 = 89	CES76 = 46
CES02 = 59	CES27 = 86	CES52 = 88	CES77 = 65
CES03 = 30	CES28 = 78	CES53 = 76	CES78 = 49
CES04 = 69	CES29 = 62	CES54 = 83	CES79 = 78
CES05 = 46	CES30 = 79	CES55 = 82	CES80 = 74
CES06 = 50	CES31 = 66	CES56 = 71	CES81 = 77
CES07 = 39	CES32 = 58	CES57 = 70	CES82 = 89
CES08 = 38	CES33 = 74	CES58 = 71	CES83 = 87
CES09 = 29	CES34 = 66	CES59 = 86	CES84 = 86
CES10 = 72	CES35 = 81	CES60 = 90	CES85 = 79
CES11 = 56	CES36 = 94	CES61 = 84	CES86 = 76
CES12 = 61	CES37 = 75	CES62 = 84	CES87 = 76
CES13 = 41	CES38 = 88	CES63 = 72	CES88 = 79
CES14 = 74	CES39 = 95	CES64 = 66	CES89 = 73
CES15 = 70	CES40 = 88	CES65 = 61	CES90 = 78
CES16 = 46	CES41 = 92	CES66 = 58	CES91 = 77
CES17 = 49	CES42 = 75	CES67 = 55	CES92 = 63
CES18 = 55	CES43 = 74	CES68 = 65	CES93 = 77
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 56
CES20 = 64	CES45 = 83	CES70 = 55	CES95 = 67
CES21 = 85	CES46 = 82	CES71 = 47	CES96 = 76
CES22 = 77	CES47 = 84	CES72 = 82	CES97 = 83
CES23 = 91	CES48 = 76	CES73 = 44	CES98 = 73
CES24 = 90	CES49 = 80	CES74 = 92	CES99 = 62
CES25 = 71	CES50 = 88	CES75 = 47	





Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)