

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: STREETWORKS

Report Number: P868206

Luminaire Tested: **MEM2-HSN-SA-40-727-U-5MQ**

Issue Date: 08/21/2024



Test Information

Test Method: LM-79-08
Report Number: P868206
Test Lab: INNOVATION CENTER(G3)
Issue Date: 08/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MEM2-HSN-SA-40-727-U-5MQ
Description: EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 40W 70CRI 2700K
FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC
Light Source: (10) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

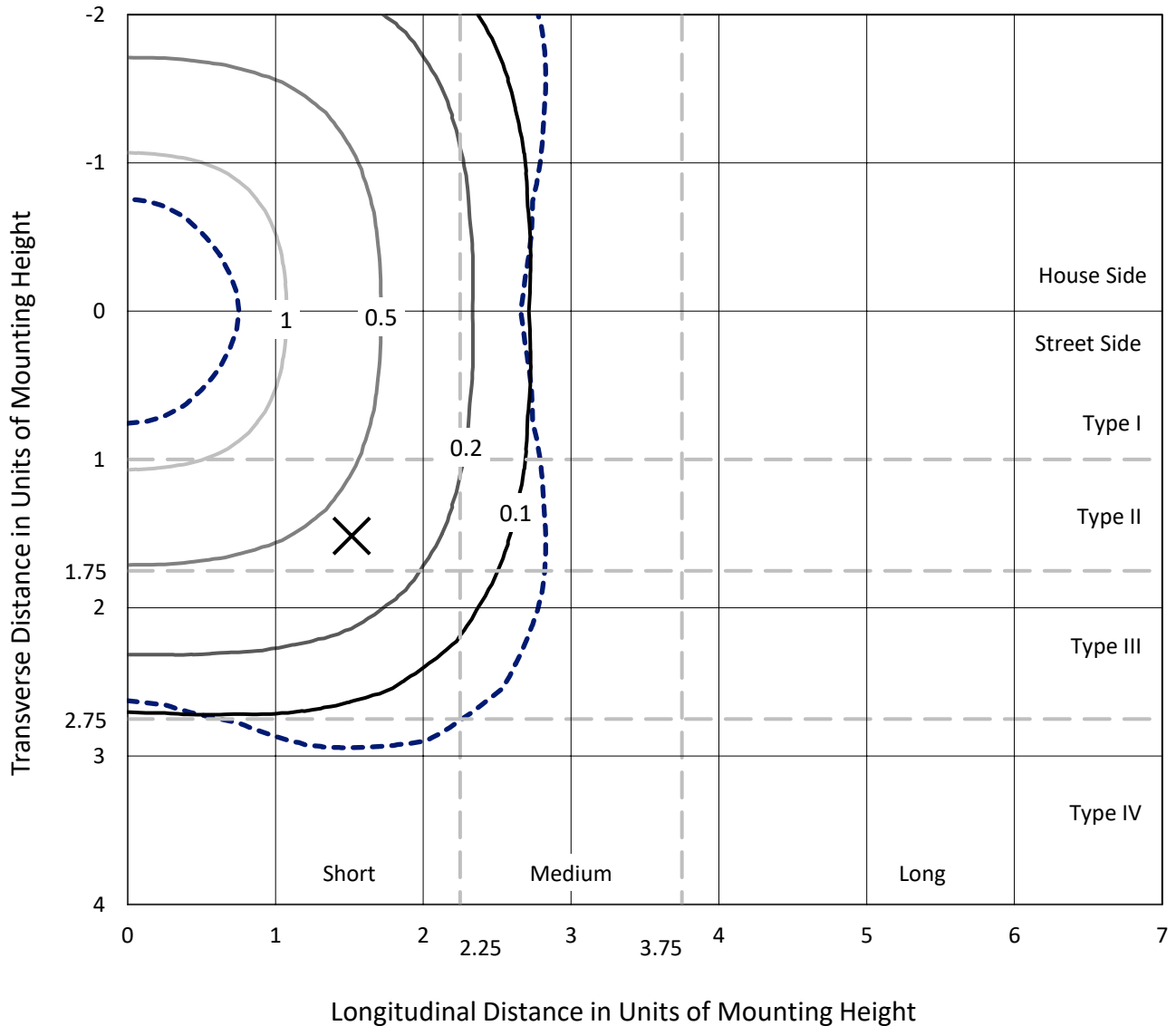
Lumens per Lamp: N/A
Luminaire Lumens: 5994 lumens
Efficiency: N/A
Efficacy: 136.2 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G1

Input Watts (W): 44
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.91%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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 CATALOG NUMBER: MEM2-HSN-SA-40-727-U-5MQ

Iso-Footcandle Lines of Horizontal Illumination

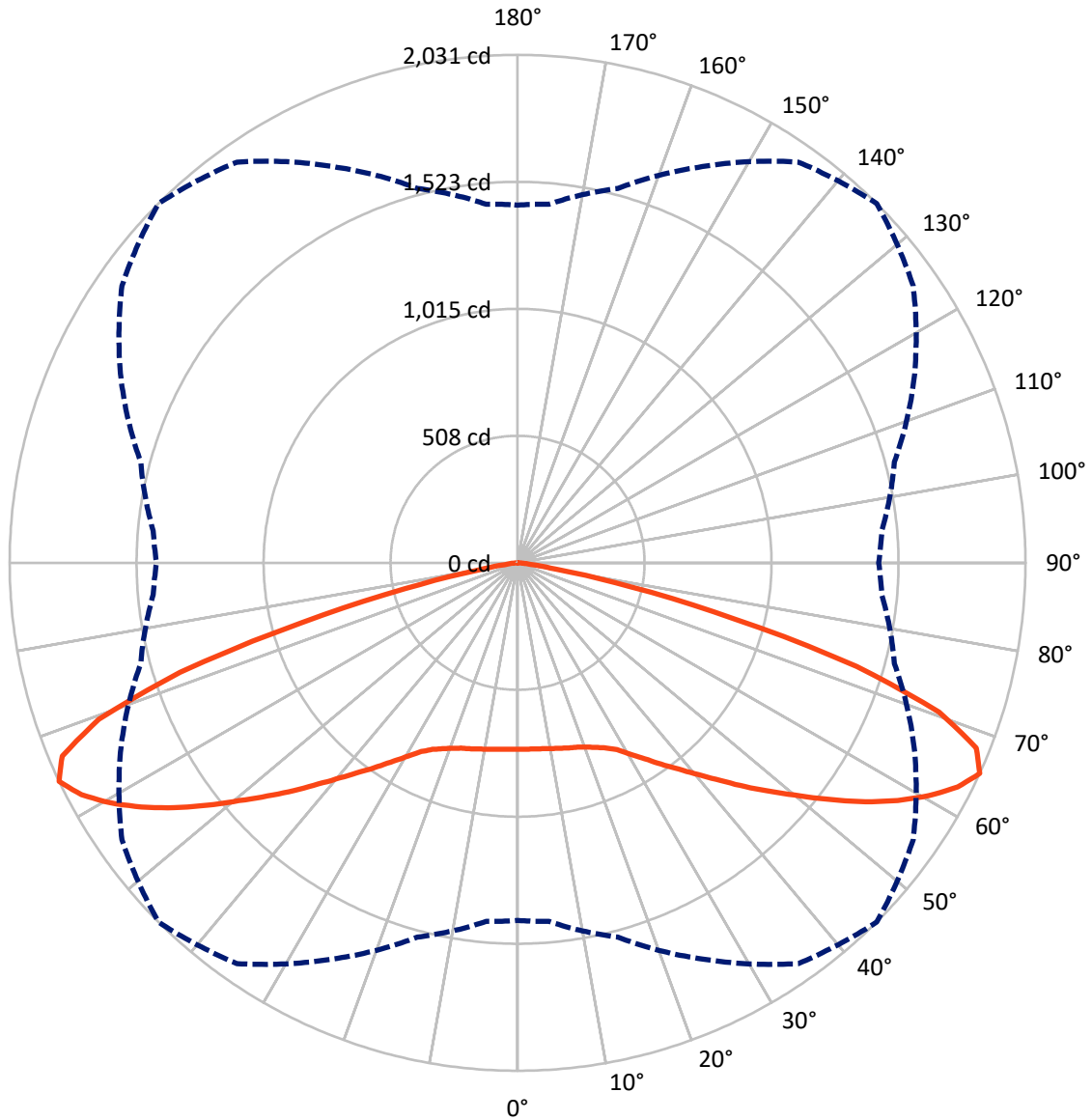
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 1.9 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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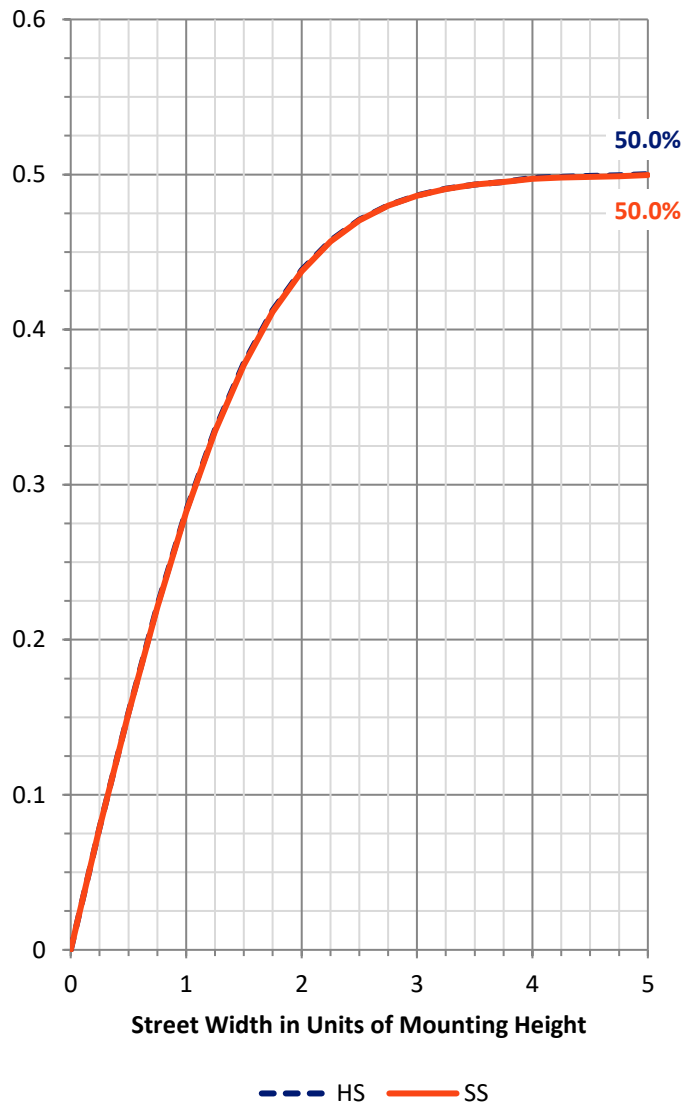
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2997.0	0.0	2997.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	2997.0	0.0	2997.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	5994.0	0.0	5994.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.6	1.2
10°-20°	218.0	3.6
20°-30°	383.4	6.4
30°-40°	620.1	10.3
40°-50°	965.9	16.1
50°-60°	1412.4	23.6
60°-70°	1626.5	27.1
70°-80°	664.3	11.1
80°-90°	31.8	0.5
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°	5994.0	100.0
0°-180°	5994.0	100.0



REPORT NUMBER: P868206

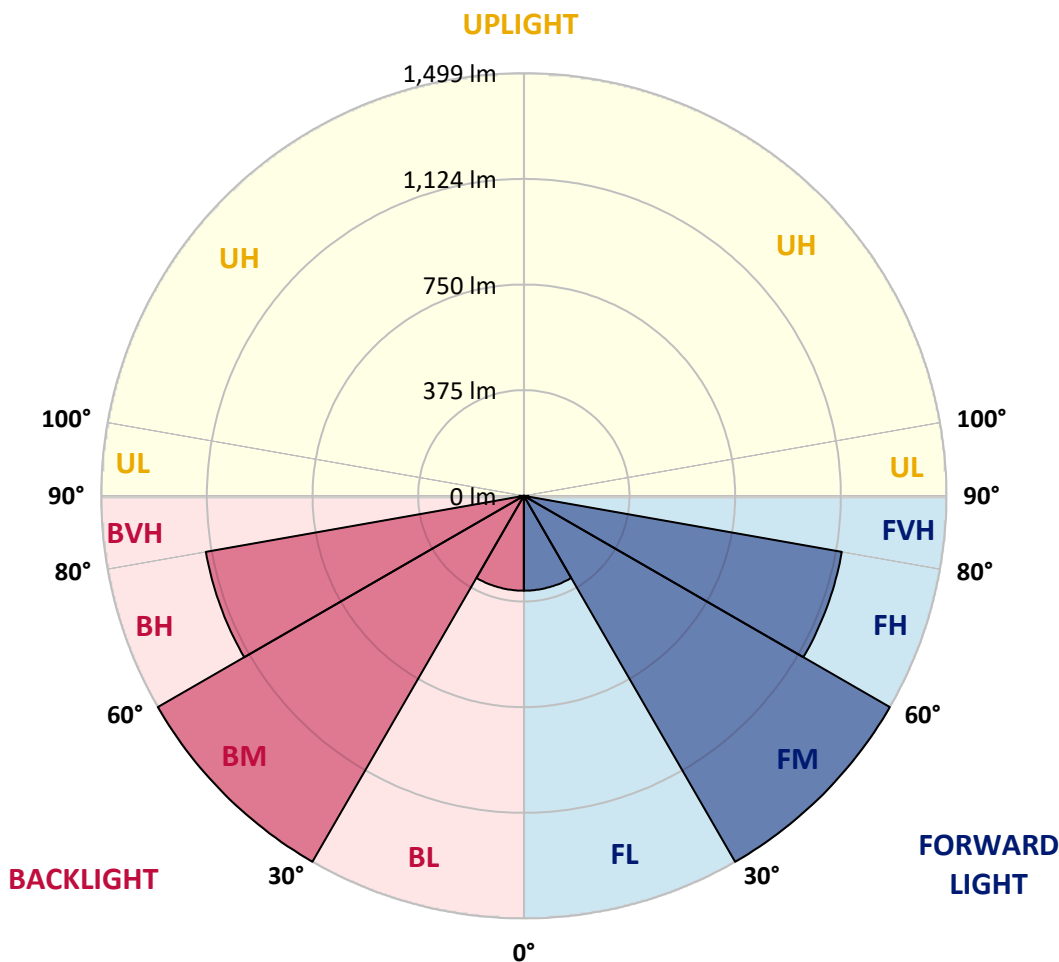
CATALOG NUMBER: MEM2-HSN-SA-40-727-U-5MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	336.5	5.6			
FM (30°-60°)	1499.2	25.0			
FH (60°-80°)	1145.4	19.1			G1/1800
FVH (80°-90°)	15.9	0.3			G1/100
BL (0°-30°)	336.5	5.6	B1/500		
BM (30°-60°)	1499.2	25.0	B2/2500		
BH (60°-80°)	1145.4	19.1	B3/2500		G1/1800
BVH (80°-90°)	15.9	0.3			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: MEM2-HSN-SA-40-727-U-5MQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8	744.8
2.5°	747.1	747.1	745.9	745.9	743.6	745.9	744.8	745.9	744.8	744.8	745.9
5°	749.4	749.4	747.1	748.2	745.9	747.1	745.9	748.2	747.1	745.9	748.2
7.5°	752.8	752.8	750.5	751.7	749.4	750.5	749.4	751.7	750.5	750.5	751.7
10°	756.3	757.4	755.1	754.0	754.0	755.1	756.3	757.4	756.3	756.3	758.6
12.5°	762.1	763.2	760.9	759.8	759.8	760.9	762.1	764.4	760.9	760.9	760.9
15°	767.8	767.8	766.7	765.5	766.7	767.8	767.8	770.1	767.8	765.5	765.5
17.5°	770.1	771.3	770.1	772.4	773.6	774.7	775.9	775.9	772.4	771.3	771.3
20°	778.2	779.3	777.0	778.2	781.6	786.2	786.2	786.2	786.2	782.8	782.8
22.5°	792.0	793.1	792.0	792.0	796.6	801.2	801.2	804.6	800.0	797.7	797.7
25°	815.0	815.0	813.9	815.0	817.3	819.6	824.2	826.5	826.5	825.4	826.5
27.5°	842.6	843.8	842.6	842.6	841.5	846.1	853.0	856.4	857.6	858.7	858.7
30°	879.5	881.8	880.6	881.8	884.1	887.5	889.8	891.0	891.0	888.7	888.7
32.5°	919.8	922.1	919.8	925.5	933.6	933.6	931.3	935.9	932.4	930.1	927.8
35°	967.0	967.0	969.3	971.6	983.1	988.8	988.8	986.5	979.6	976.2	978.5
37.5°	1021.1	1022.2	1024.5	1025.7	1036.0	1046.4	1045.2	1039.5	1031.4	1022.2	1022.2
40°	1085.5	1083.2	1084.4	1092.4	1100.5	1113.1	1114.3	1106.2	1092.4	1083.2	1083.2
42.5°	1144.2	1145.4	1150.0	1160.3	1178.8	1189.1	1183.4	1169.6	1154.6	1143.1	1141.9
45°	1206.4	1205.2	1217.9	1239.8	1263.9	1276.6	1267.4	1247.8	1224.8	1209.8	1209.8
47.5°	1269.7	1268.6	1289.3	1325.0	1356.0	1366.4	1357.2	1331.9	1300.8	1278.9	1275.5
50°	1335.3	1339.9	1361.8	1412.4	1452.7	1464.2	1452.7	1419.4	1377.9	1349.1	1344.5
52.5°	1410.1	1413.6	1442.4	1497.6	1547.1	1573.6	1556.3	1506.8	1453.9	1419.4	1414.7
55°	1479.2	1481.5	1523.0	1589.7	1650.7	1686.4	1658.8	1595.5	1528.7	1485.0	1480.4
57.5°	1527.6	1533.3	1586.3	1672.6	1750.9	1792.3	1750.9	1683.0	1594.3	1540.2	1536.8
60°	1558.6	1567.8	1628.9	1737.1	1845.3	1890.2	1847.6	1753.2	1643.8	1573.6	1570.2
62.5°	1542.5	1555.2	1633.5	1775.1	1925.9	1974.2	1918.9	1786.6	1638.1	1549.4	1540.2
65°	1429.7	1438.9	1549.4	1747.4	1955.8	2030.6	1930.5	1749.7	1559.8	1461.9	1443.5
67.5°	1196.0	1212.1	1358.3	1613.9	1891.3	1977.7	1851.0	1617.3	1388.3	1268.6	1247.8
70°	918.6	947.4	1107.4	1384.8	1689.9	1787.7	1648.4	1365.2	1095.9	973.9	935.9
72.5°	530.7	575.6	810.4	1080.9	1344.5	1418.2	1222.5	954.3	727.5	641.2	630.8
75°	176.1	192.2	385.6	622.8	857.6	894.4	764.4	602.0	478.9	409.8	413.3
77.5°	86.3	86.3	116.3	227.9	390.2	460.5	417.9	291.2	209.5	158.9	154.3
80°	69.1	69.1	80.6	111.7	131.2	154.3	131.2	95.5	78.3	71.4	74.8
82.5°	33.4	32.2	38.0	54.1	55.3	53.0	49.5	49.5	47.2	43.7	42.6
85°	2.3	2.3	4.6	10.4	17.3	23.0	26.5	25.3	24.2	20.7	23.0
87.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	2.3	2.3	2.3	2.3
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: SP1-2407-157-3

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-40-727-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-40-727-U-5WQ-2

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-3
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/20/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-SA-40-727-U-5WQ-2**
 Description: Epic Modern Light Square 40W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K): 2747
 CIE u': 0.2606
 CIE v': 0.5257
 Duv: -0.0005
 CIE x: 0.4552
 CIE y: 0.4082
 CIE z: 0.1366
 Peak Wavelength (nm): 597
 Dominant Wavelength (nm): 584
 Purity: 59.16856
 Rf: 75.5
 Rg: 93.6

CRI (Ra):	71.7		
R1:	68.1	R9:	-35.3
R2:	83.9	R10:	64.2
R3:	94.7	R11:	61.7
R4:	66.3	R12:	53.9
R5:	67.4	R13:	71.2
R6:	78.7	R14:	97.6
R7:	75.0	R15:	59.3
R8:	39.4		



Test Conditions

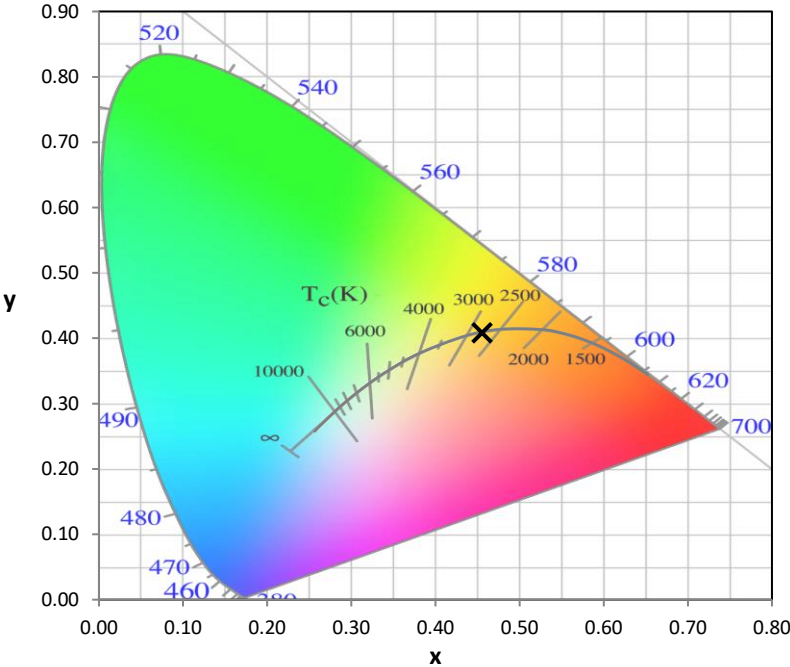
Stabilization Time: 22M
 Operation Time: 1H 22M
 Sphere Temperature (°C): 24.2

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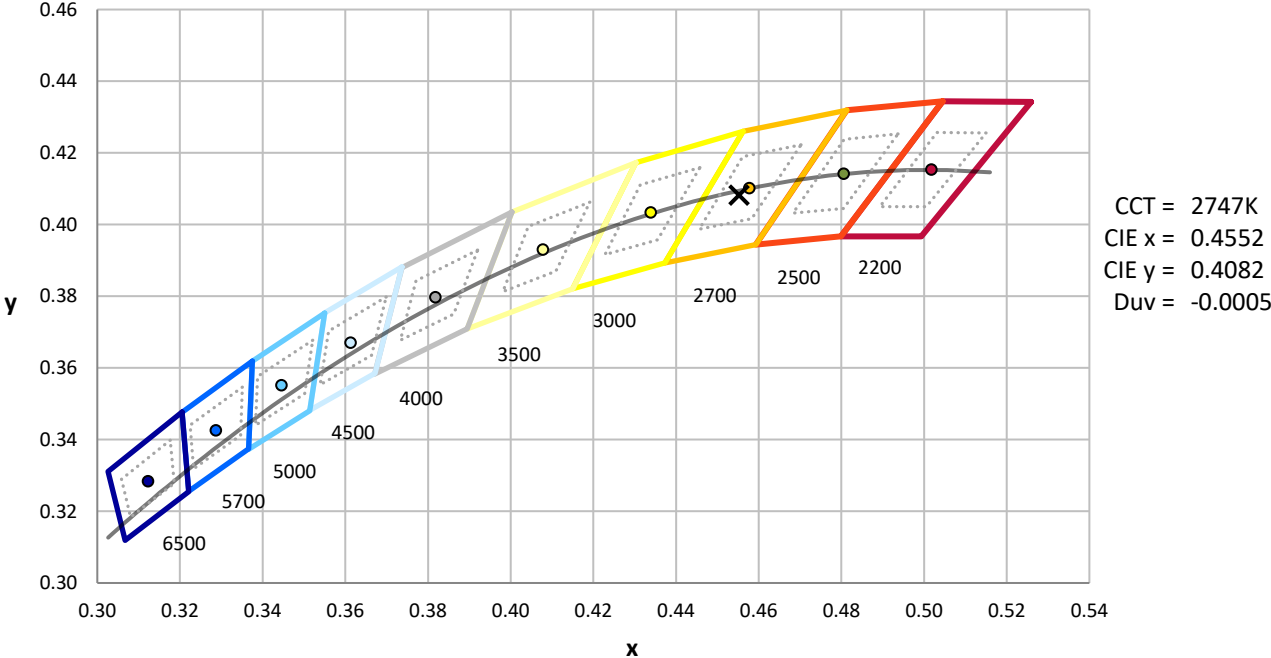
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	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 2700K 4-step quadrangle

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Photopic Flux vs. Wavelength



Photopic Lumens: NR

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.13

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.04

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

Summary

$R_f = 75.5$
 $R_g = 93.6$
 $CIE R_a = 71.7$
 $R_9 = -35.3$

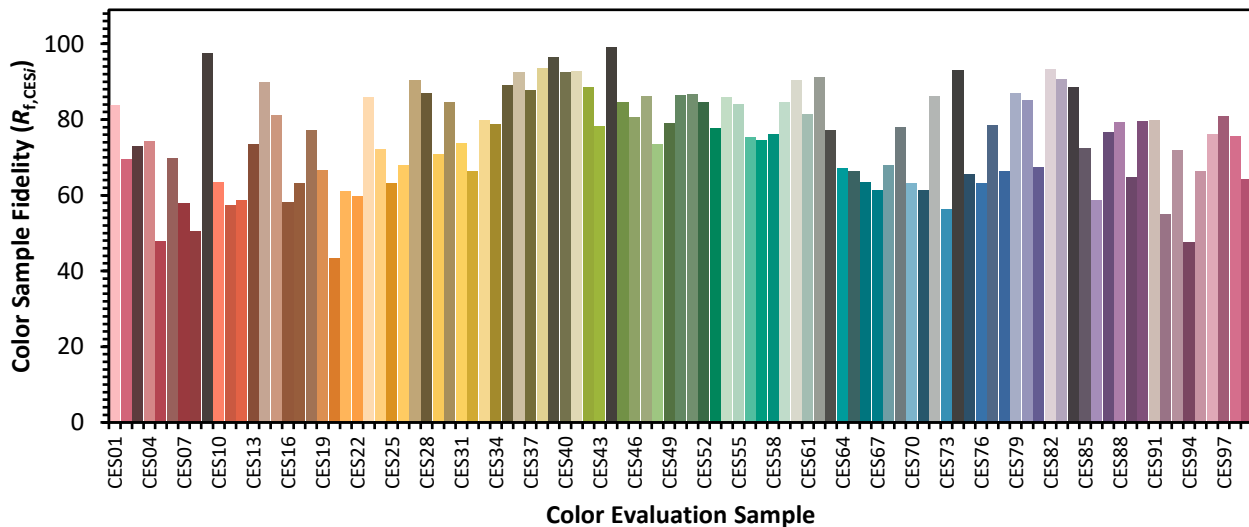


Color Vector Graphics

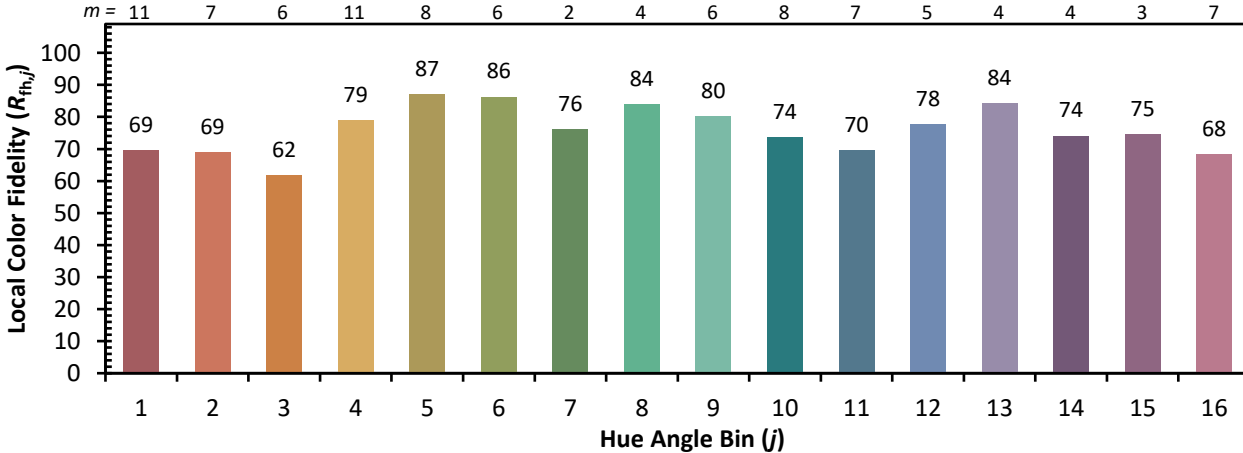


Individual Sample Fidelity Index ($R_{f,i}$)

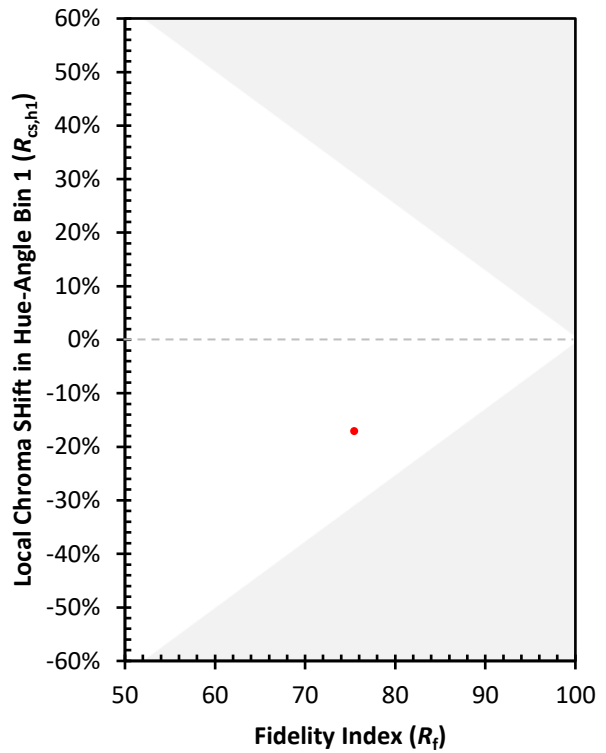
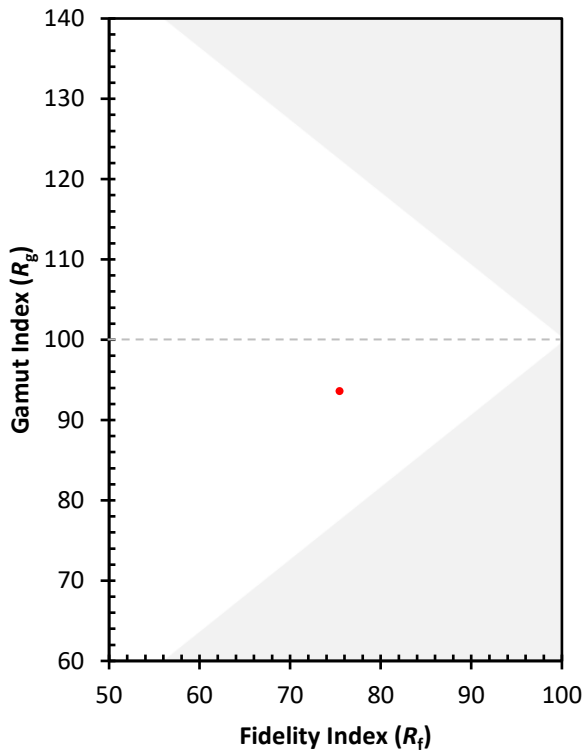
CES01 = 86	CES26 = 68	CES51 = 87	CES76 = 63
CES02 = 63	CES27 = 90	CES52 = 85	CES77 = 79
CES03 = 31	CES28 = 87	CES53 = 78	CES78 = 66
CES04 = 71	CES29 = 71	CES54 = 86	CES79 = 87
CES05 = 50	CES30 = 85	CES55 = 84	CES80 = 85
CES06 = 52	CES31 = 74	CES56 = 75	CES81 = 67
CES07 = 42	CES32 = 66	CES57 = 75	CES82 = 93
CES08 = 41	CES33 = 80	CES58 = 76	CES83 = 91
CES09 = 29	CES34 = 79	CES59 = 85	CES84 = 89
CES10 = 77	CES35 = 89	CES60 = 90	CES85 = 72
CES11 = 60	CES36 = 93	CES61 = 81	CES86 = 59
CES12 = 66	CES37 = 88	CES62 = 91	CES87 = 77
CES13 = 43	CES38 = 93	CES63 = 77	CES88 = 79
CES14 = 74	CES39 = 97	CES64 = 67	CES89 = 65
CES15 = 72	CES40 = 93	CES65 = 66	CES90 = 80
CES16 = 48	CES41 = 93	CES66 = 63	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 61	CES92 = 55
CES18 = 57	CES43 = 78	CES68 = 68	CES93 = 72
CES19 = 73	CES44 = 99	CES69 = 78	CES94 = 48
CES20 = 67	CES45 = 85	CES70 = 63	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 61	CES96 = 76
CES22 = 80	CES47 = 86	CES72 = 86	CES97 = 81
CES23 = 92	CES48 = 74	CES73 = 56	CES98 = 76
CES24 = 91	CES49 = 79	CES74 = 93	CES99 = 64
CES25 = 73	CES50 = 86	CES75 = 66	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)