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: P870152

Luminaire Tested: **MEM2-HTN-SA-40-830-U-5MQ**

Issue Date: 08/21/2024

Report Generated By 670245763

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P870152
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	08/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HTN-SA-40-830-U-5MQ
Description:	EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 40W 80CRI 3000K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC
Light Source:	(10) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4493.3 lumens
Efficiency:	N/A
Efficacy:	137.0 lumens/watt
Luminous Opening:	Rectangular (W 0.33' x L: 0.33' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B2 - U0 - G1

Input Watts (W):	32.8
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.99
Total Harmonic Distortion (THDi):	9.76%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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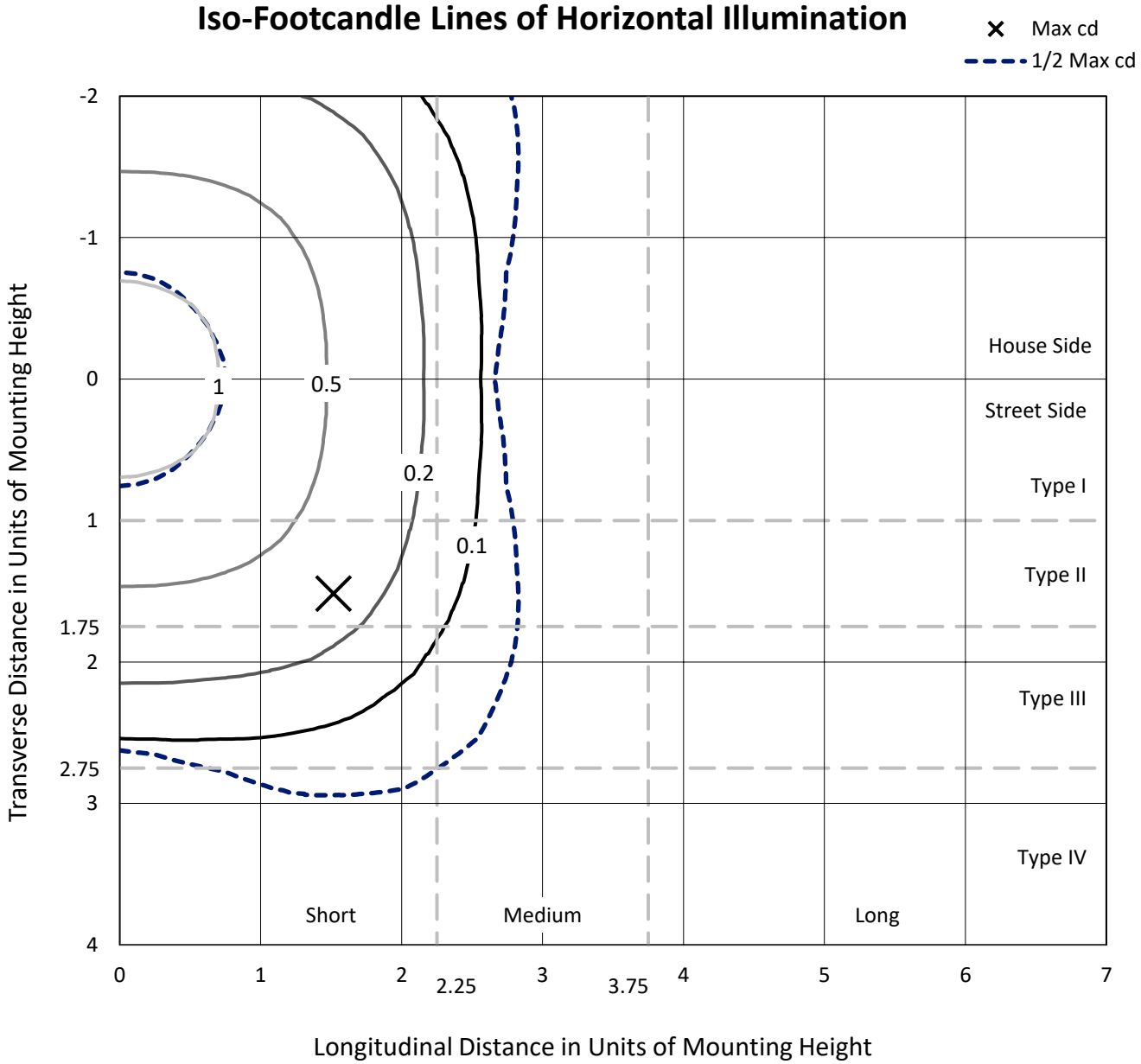
Scaled Data Report

REPORT NUMBER: P870152
CATALOG NUMBER: MEM2-HTN-SA-40-830-U-5MQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 20 foot mounting height. Maximum calculated value = 1.4 fc
Type V - Short - N/A

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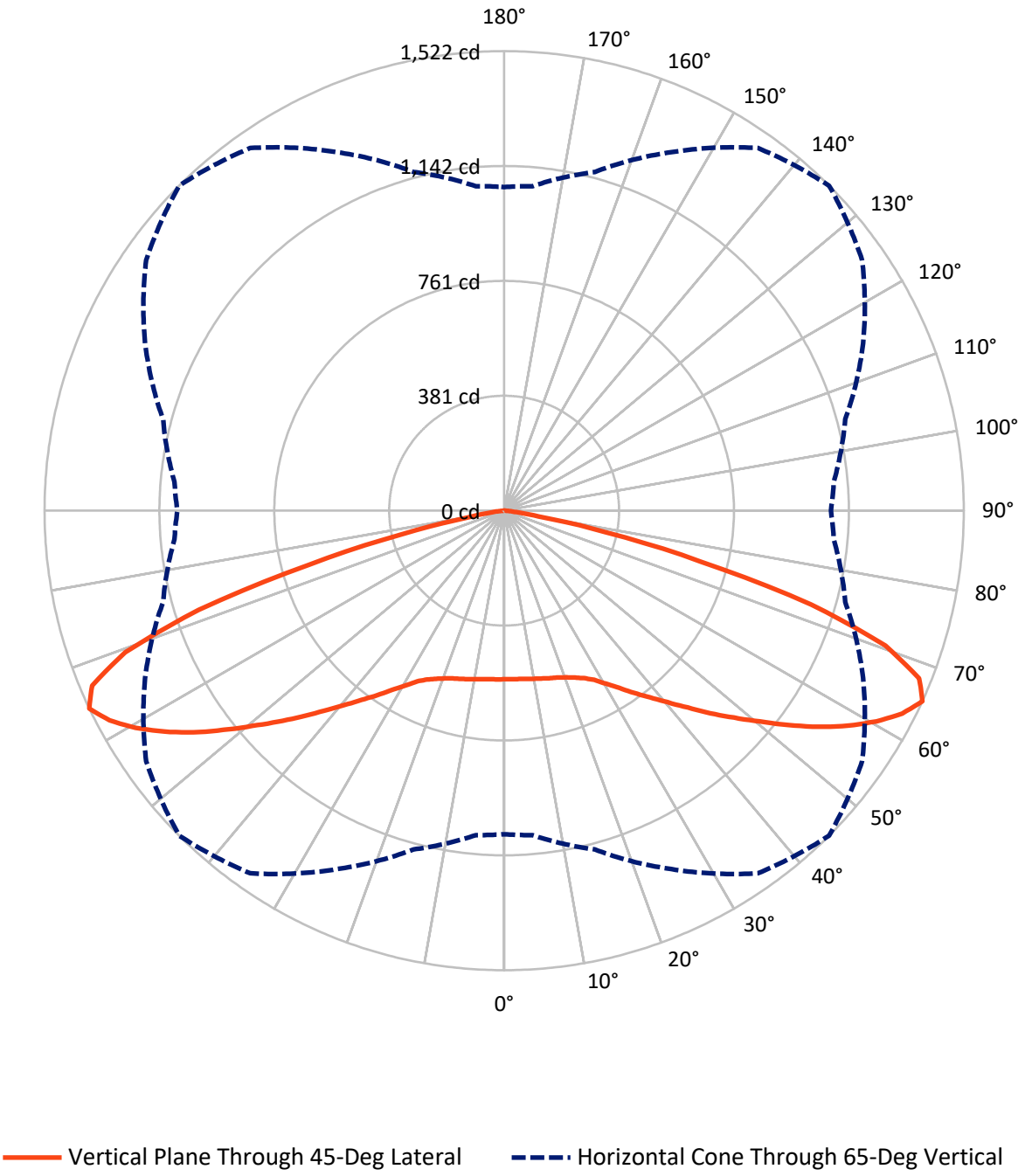
CATALOG NUMBER: MEM2-HTN-SA-40-830-U-5MQ

Luminous Intensity Polar Plot



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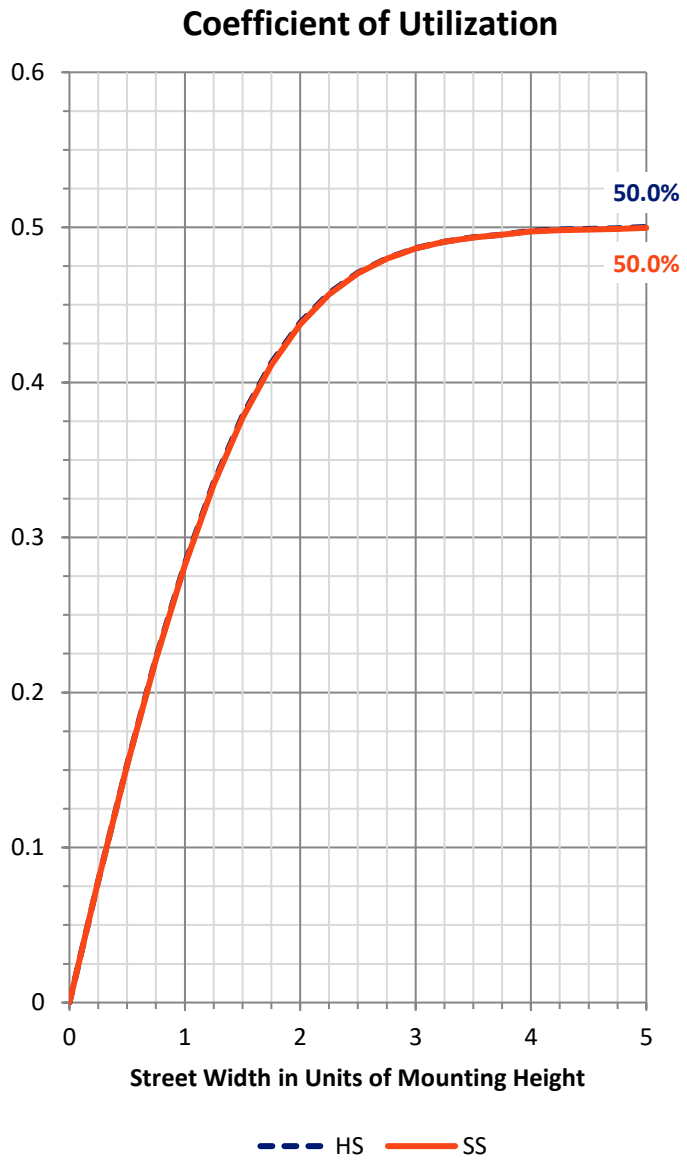
REPORT NUMBER: P870152
CATALOG NUMBER: MEM2-HTN-SA-40-830-U-5MQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2246.7	0.0	2246.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	2246.7	0.0	2246.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	4493.3	0.0	4493.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.7	1.2
10°-20°	163.4	3.6
20°-30°	287.4	6.4
30°-40°	464.9	10.3
40°-50°	724.1	16.1
50°-60°	1058.8	23.6
60°-70°	1219.2	27.1
70°-80°	498.0	11.1
80°-90°	23.8	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°	4493.3	100.0
0°-180°	4493.3	100.0



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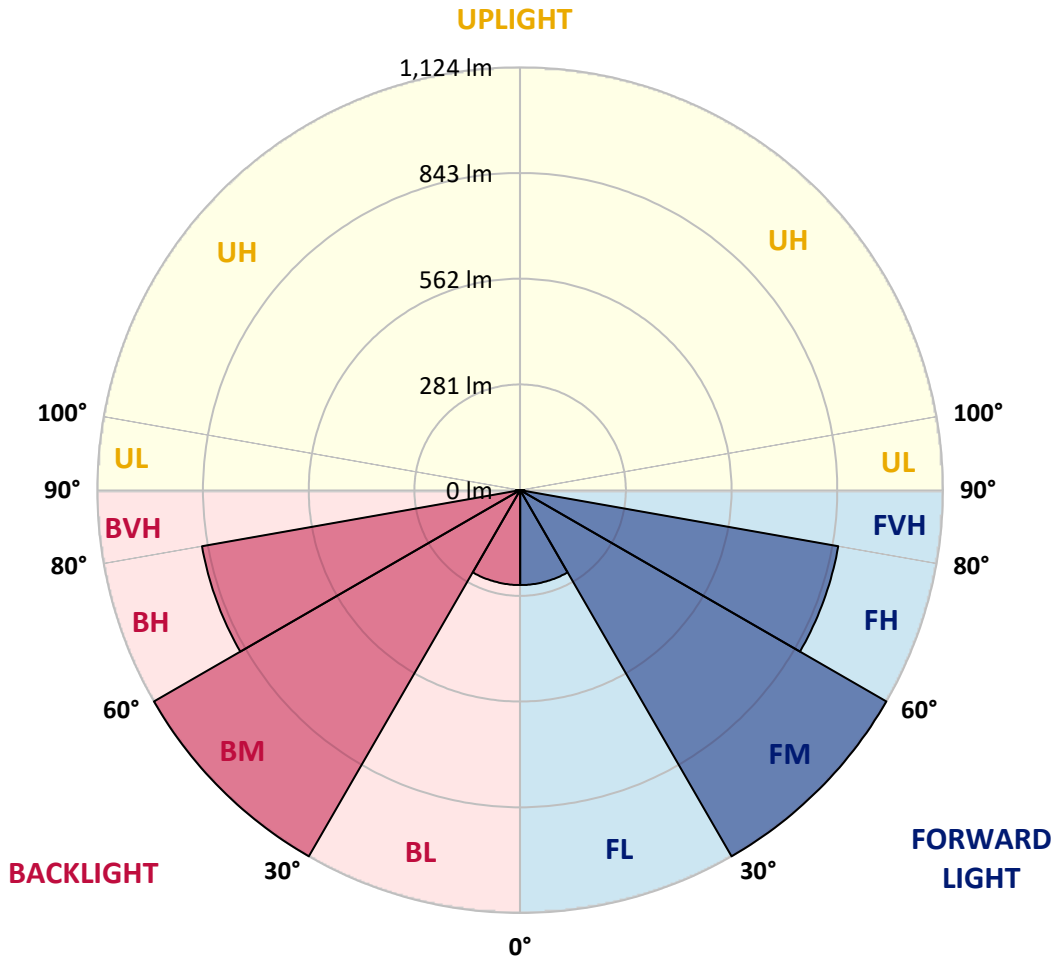
Scaled Data Report

REPORT NUMBER: P870152
CATALOG NUMBER: MEM2-HTN-SA-40-830-U-5MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	252.3	5.6			
FM	(30°-60°)	1123.9	25.0			
FH	(60°-80°)	858.6	19.1			G1/1800
FVH	(80°-90°)	11.9	0.3			G1/100
BL	(0°-30°)	252.3	5.6	B1/500		
BM	(30°-60°)	1123.9	25.0	B2/2500		
BH	(60°-80°)	858.6	19.1	B2/1000		G1/1800
BVH	(80°-90°)	11.9	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G1
Type V Short



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REPORT NUMBER: P870152
CATALOG NUMBER: MEM2-HTN-SA-40-830-U-5MQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	558.3	558.3	558.3	558.3	558.3	*558.3*	558.3	558.3	558.3	558.3	558.3
2.5°	560.0	560.0	559.2	559.2	557.5	*559.2*	558.3	559.2	558.3	558.3	559.2
5°	561.8	561.8	560.0	560.9	559.2	*560.0*	559.2	560.9	560.0	559.2	560.9
7.5°	564.4	564.4	562.6	563.5	561.8	*562.6*	561.8	563.5	562.6	562.6	563.5
10°	566.9	567.8	566.1	565.2	565.2	*566.1*	566.9	567.8	566.9	566.9	568.7
12.5°	571.3	572.1	570.4	569.5	569.5	*570.4*	571.3	573.0	570.4	570.4	570.4
15°	575.6	575.6	574.7	573.9	574.7	*575.6*	575.6	577.3	575.6	573.9	573.9
17.5°	577.3	578.2	577.3	579.0	579.9	*580.8*	581.6	581.6	579.0	578.2	578.2
20°	583.3	584.2	582.5	583.3	585.9	*589.4*	589.4	589.4	589.4	586.8	586.8
22.5°	593.7	594.6	593.7	593.7	597.1	*600.6*	600.6	603.2	599.7	598.0	598.0
25°	611.0	611.0	610.1	611.0	612.7	*614.4*	617.9	619.6	619.6	618.7	619.6
27.5°	631.7	632.5	631.7	631.7	630.8	*634.3*	639.4	642.0	642.9	643.7	643.7
30°	659.3	661.0	660.1	661.0	662.7	*665.3*	667.0	667.9	667.9	666.2	666.2
32.5°	689.5	691.2	689.5	693.8	699.8	*699.8*	698.1	701.6	699.0	697.2	695.5
35°	724.9	724.9	726.6	728.3	736.9	*741.3*	741.3	739.5	734.4	731.8	733.5
37.5°	765.4	766.3	768.0	768.9	776.6	*784.4*	783.5	779.2	773.2	766.3	766.3
40°	813.7	812.0	812.9	818.9	825.0	*834.5*	835.3	829.3	818.9	812.0	812.0
42.5°	857.8	858.6	862.1	869.8	883.6	*891.4*	887.1	876.7	865.5	856.9	856.0
45°	904.4	903.5	913.0	929.4	947.5	*957.0*	950.1	935.4	918.2	906.9	906.9
47.5°	951.8	951.0	966.5	993.2	1016.5	*1024.3*	1017.4	998.4	975.1	958.7	956.1
50°	1001.0	1004.5	1020.8	1058.8	1089.0	*1097.7*	1089.0	1064.0	1032.9	1011.4	1007.9
52.5°	1057.1	1059.7	1081.3	1122.7	1159.8	*1179.6*	1166.7	1129.6	1089.9	1064.0	1060.5
55°	1108.9	1110.6	1141.7	1191.7	1237.4	*1264.2*	1243.5	1196.0	1146.0	1113.2	1109.7
57.5°	1145.1	1149.4	1189.1	1253.8	1312.5	*1343.6*	1312.5	1261.6	1195.2	1154.6	1152.0
60°	1168.4	1175.3	1221.0	1302.2	1383.3	*1416.9*	1385.0	1314.2	1232.3	1179.6	1177.0
62.5°	1156.3	1165.8	1224.5	1330.6	1443.7	*1479.9*	1438.5	1339.3	1228.0	1161.5	1154.6
65°	*1071.8*	*1078.7*	*1161.5*	*1309.9*	*1466.1*	*1522.2*	*1447.1*	*1311.7*	*1169.3*	*1095.9*	*1082.1*
67.5°	896.6	908.7	1018.3	1209.8	1417.8	*1482.5*	1387.6	1212.4	1040.7	951.0	935.4
70°	688.6	710.2	830.1	1038.1	1266.8	*1340.1*	1235.7	1023.4	821.5	730.0	701.6
72.5°	397.8	431.5	607.5	810.3	1007.9	*1063.1*	916.4	715.4	545.4	480.7	472.9
75°	132.0	144.1	289.1	466.8	642.9	*670.5*	573.0	451.3	359.0	307.2	309.8
77.5°	64.7	64.7	87.2	170.9	292.5	*345.2*	313.2	218.3	157.1	119.1	115.6
80°	51.8	51.8	60.4	83.7	98.4	*115.6*	98.4	71.6	58.7	53.5	56.1
82.5°	25.0	24.2	28.5	40.6	41.4	*39.7*	37.1	37.1	35.4	32.8	31.9
85°	1.7	1.7	3.5	7.8	12.9	*17.3*	19.8	19.0	18.1	15.5	17.3
87.5°	0.9	0.9	0.9	0.9	0.9	*0.9*	0.9	1.7	1.7	1.7	1.7
90°	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0	0.0

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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-7

Test Date: 09/05/2024

Luminaire Tested: MEM2-HTN-SA-40-830-U-5WQ

Data in this report applies to families of products including MEM2-HTN-SA-40-830-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

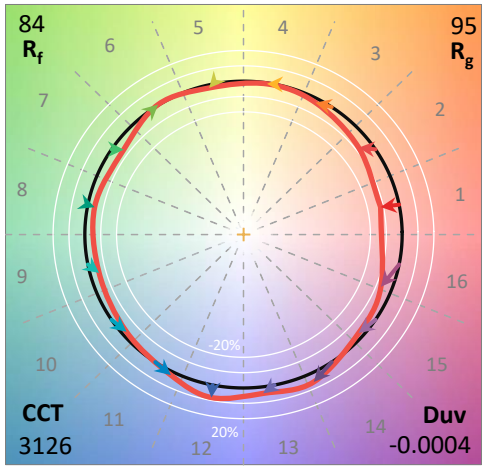
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-157-7
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-40-830-U-5WQ**
Description:	Epic Modern Light Square 40W 5WQ Optic

Spectral Parameters

CCT (K):	3126
CIE u':	0.2465
CIE v':	0.5182
Duv:	-0.0004
CIE x:	0.4277
CIE y:	0.3997
CIE z:	0.1727
Peak Wavelength (nm):	601
Dominant Wavelength (nm):	582
Purity:	48.31913
Rf:	84.4
Rg:	94.7

CRI (Ra):	82.6
R1:	81.4
R2:	92.2
R3:	94.9
R4:	80.1
R5:	81.8
R6:	90.5
R7:	81.8
R8:	58.0
R9:	5.1
R10:	82.2
R11:	79.8
R12:	70.4
R13:	84.2
R14:	97.9
R15:	73.6



Test Conditions

Stabilization Time:	22M
Operation Time:	1H 22M
Sphere Temperature (°C):	24.3

REPORT NUMBER: SP1-2407-157-7

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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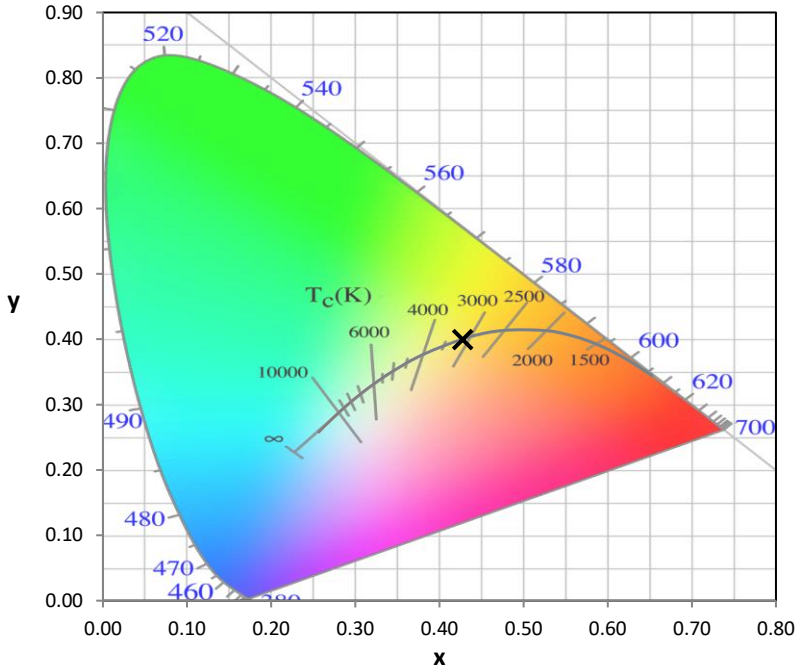
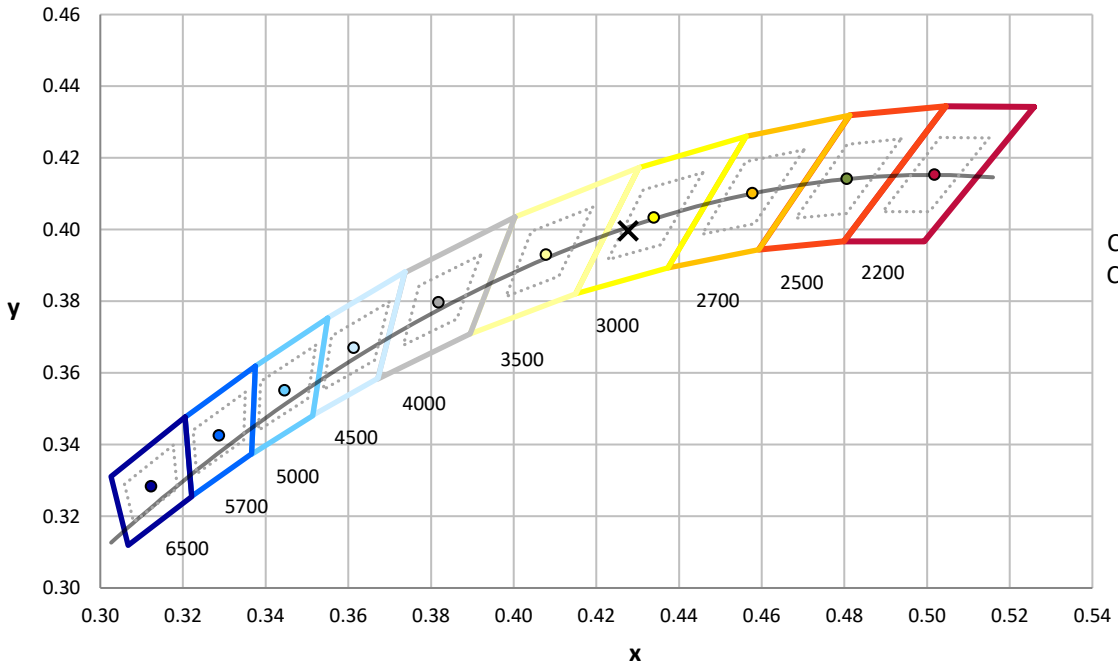
CIE 1931 Chromaticity Diagram



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



CCT = 3126K
CIE x = 0.4277
CIE y = 0.3997
Duv = -0.0004

Point lies inside the ANSI 3000K 4-step quadrangle

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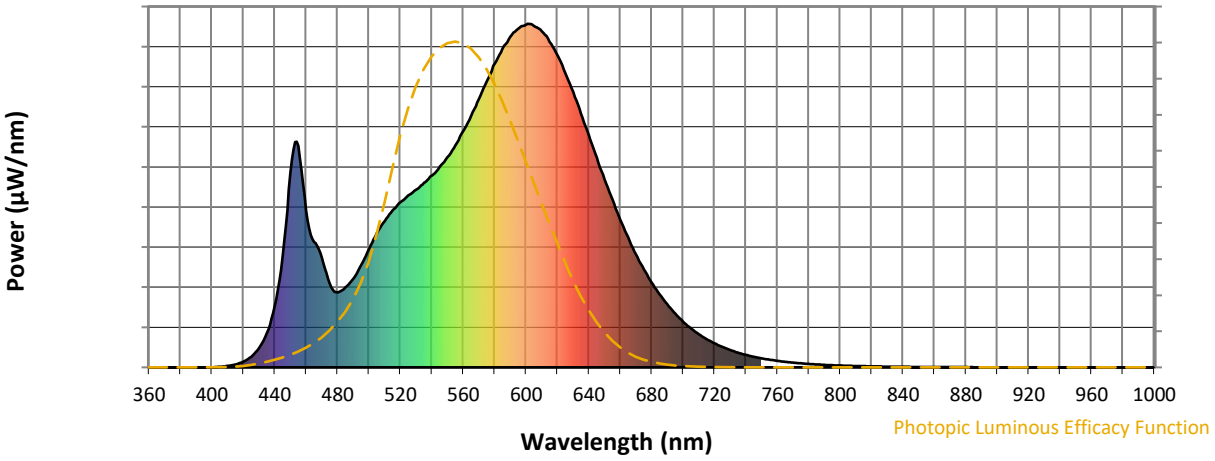
Photopic Flux vs. Wavelength

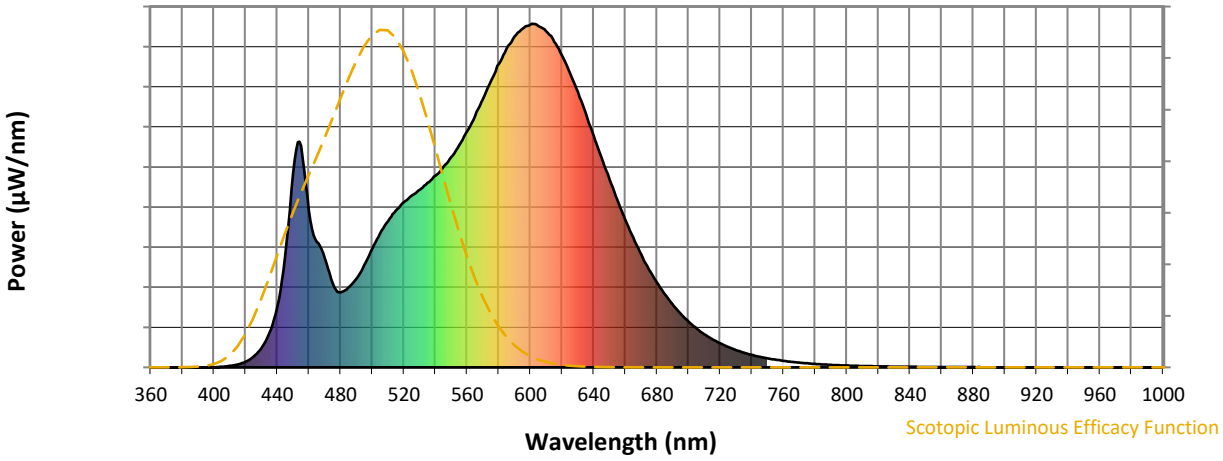


Photopic Lumens: NR

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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-157-7

Scotopic Flux vs. Wavelength

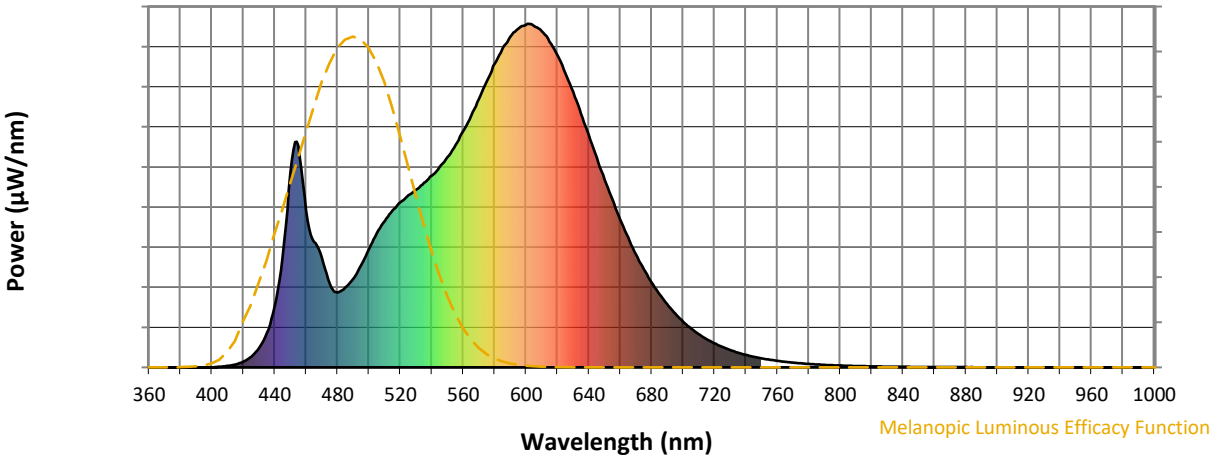


Scotopic Lumens: NR **S/P: 1.42**

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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

REPORT NUMBER: SP1-2407-157-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.79**

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	258	NR	620	908	NR	750	26	NR	880	1	NR
365	0	NR	495	297	NR	625	857	NR	755	22	NR	885	0	NR
370	0	NR	500	345	NR	630	801	NR	760	19	NR	890	0	NR
375	0	NR	505	391	NR	635	738	NR	765	16	NR	895	0	NR
380	0	NR	510	426	NR	640	675	NR	770	14	NR	900	0	NR
385	0	NR	515	456	NR	645	610	NR	775	12	NR	905	0	NR
390	0	NR	520	480	NR	650	547	NR	780	10	NR	910	0	NR
395	0	NR	525	500	NR	655	488	NR	785	9	NR	915	0	NR
400	0	NR	530	517	NR	660	429	NR	790	7	NR	920	0	NR
405	2	NR	535	538	NR	665	378	NR	795	6	NR	925	0	NR
410	4	NR	540	558	NR	670	328	NR	800	5	NR	930	0	NR
415	9	NR	545	584	NR	675	285	NR	805	5	NR	935	0	NR
420	16	NR	550	611	NR	680	247	NR	810	4	NR	940	0	NR
425	31	NR	555	646	NR	685	212	NR	815	3	NR	945	0	NR
430	56	NR	560	687	NR	690	183	NR	820	3	NR	950	0	NR
435	101	NR	565	731	NR	695	156	NR	825	3	NR	955	0	NR
440	178	NR	570	780	NR	700	133	NR	830	2	NR	960	0	NR
445	323	NR	575	832	NR	705	114	NR	835	2	NR	965	0	NR
450	566	NR	580	883	NR	710	96	NR	840	2	NR	970	0	NR
455	645	NR	585	927	NR	715	82	NR	845	1	NR	975	0	NR
460	457	NR	590	963	NR	720	70	NR	850	1	NR	980	0	NR
465	365	NR	595	985	NR	725	59	NR	855	1	NR	985	0	NR
470	317	NR	600	998	NR	730	50	NR	860	1	NR	990	0	NR
475	244	NR	605	994	NR	735	43	NR	865	1	NR	995	0	NR
480	218	NR	610	978	NR	740	36	NR	870	1	NR	1000	0	NR
485	233	NR	615	947	NR	745	31	NR	875	1	NR			

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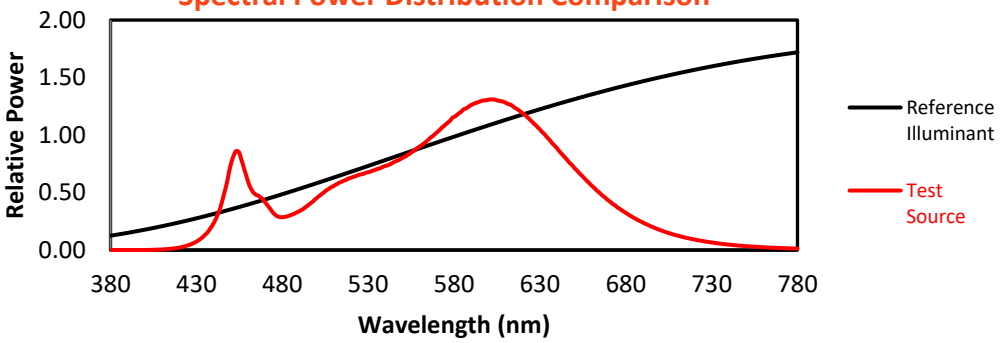
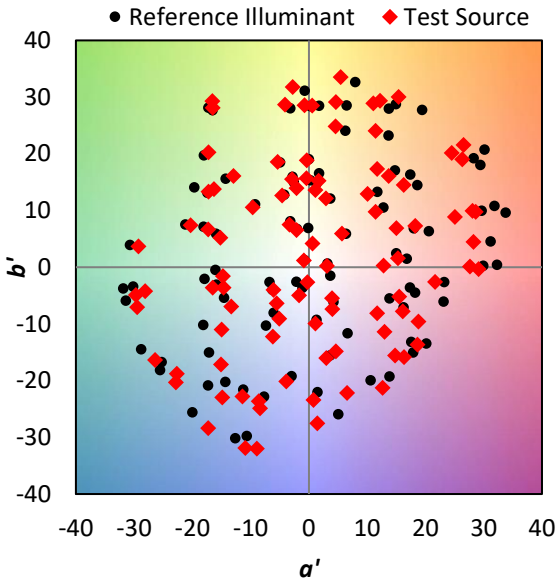
Summary

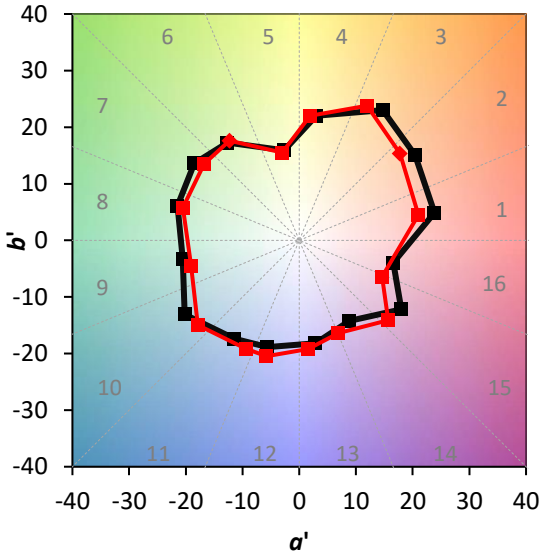
R_f = 84.4
R_g = 94.7
CIE R_a = 82.6
R_9 = 5.1

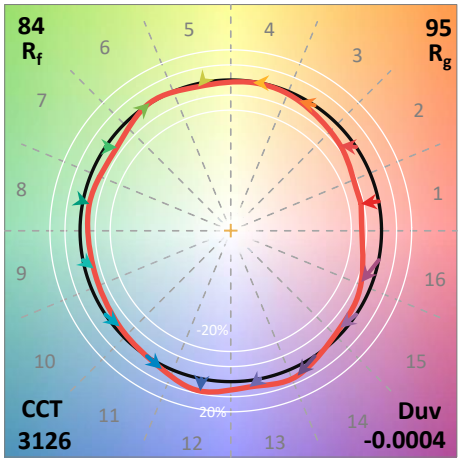
Spectral Power Distribution Comparison

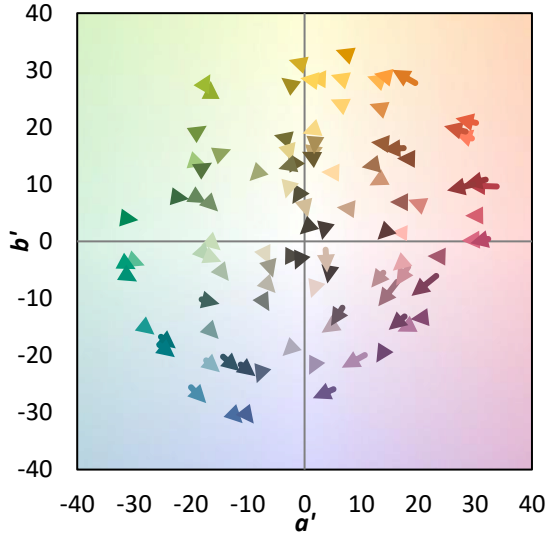


Color Vector Graphics









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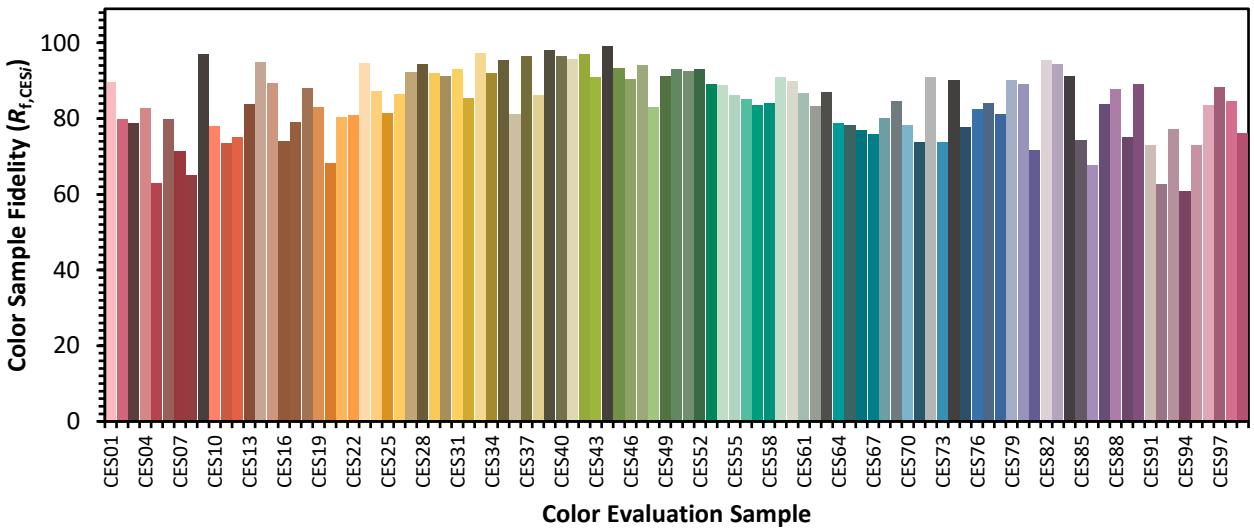
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 86	CES51 = 93	CES76 = 82
CES02 = 63	CES27 = 92	CES52 = 93	CES77 = 84
CES03 = 31	CES28 = 94	CES53 = 89	CES78 = 81
CES04 = 70	CES29 = 92	CES54 = 89	CES79 = 90
CES05 = 49	CES30 = 91	CES55 = 86	CES80 = 89
CES06 = 51	CES31 = 93	CES56 = 85	CES81 = 72
CES07 = 42	CES32 = 85	CES57 = 83	CES82 = 95
CES08 = 41	CES33 = 97	CES58 = 84	CES83 = 94
CES09 = 29	CES34 = 92	CES59 = 91	CES84 = 91
CES10 = 76	CES35 = 96	CES60 = 90	CES85 = 74
CES11 = 59	CES36 = 81	CES61 = 87	CES86 = 68
CES12 = 65	CES37 = 96	CES62 = 83	CES87 = 84
CES13 = 43	CES38 = 86	CES63 = 87	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 79	CES89 = 75
CES15 = 71	CES40 = 96	CES65 = 78	CES90 = 89
CES16 = 47	CES41 = 96	CES66 = 77	CES91 = 73
CES17 = 50	CES42 = 97	CES67 = 76	CES92 = 63
CES18 = 56	CES43 = 91	CES68 = 80	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 85	CES94 = 61
CES20 = 66	CES45 = 93	CES70 = 78	CES95 = 73
CES21 = 87	CES46 = 90	CES71 = 74	CES96 = 84
CES22 = 79	CES47 = 94	CES72 = 91	CES97 = 88
CES23 = 92	CES48 = 83	CES73 = 74	CES98 = 85
CES24 = 91	CES49 = 91	CES74 = 90	CES99 = 76
CES25 = 72	CES50 = 93	CES75 = 78	



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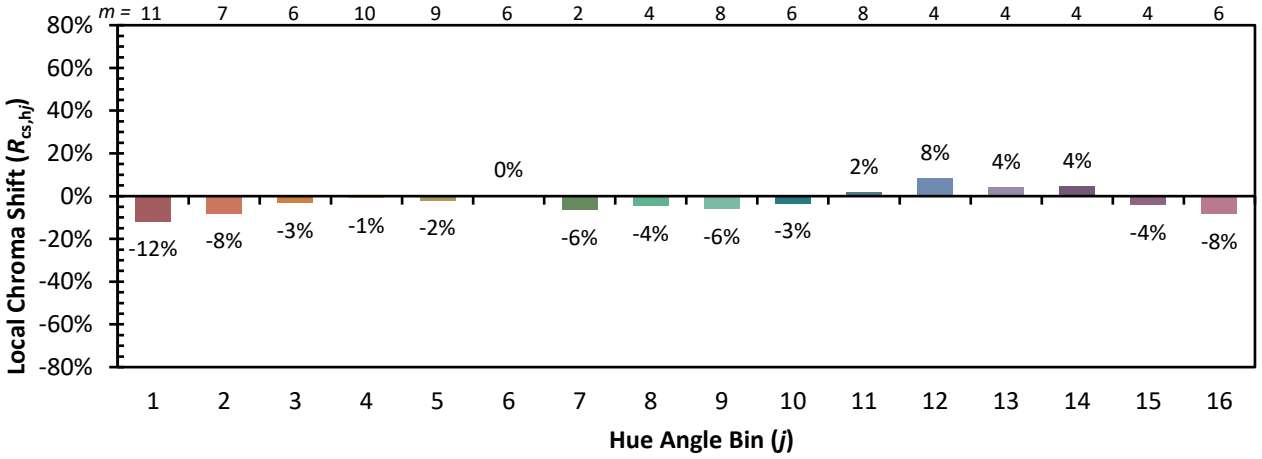
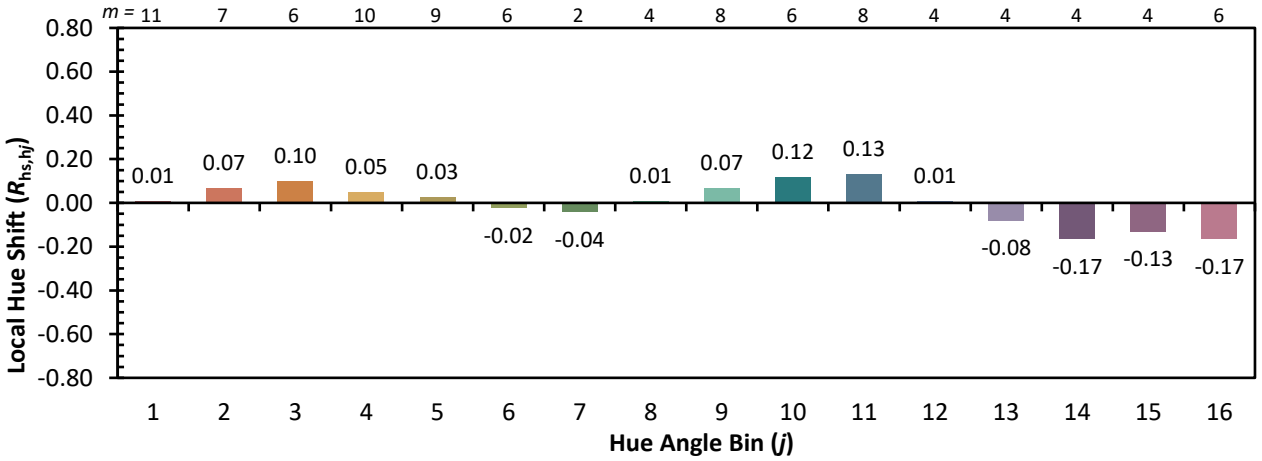
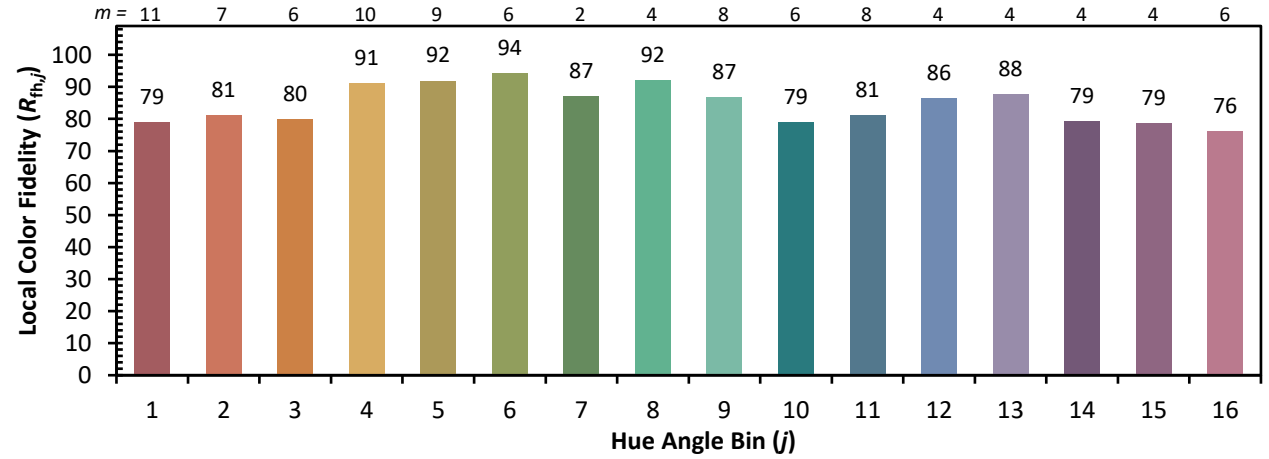
Color Rendition by Hue-Angle Bin







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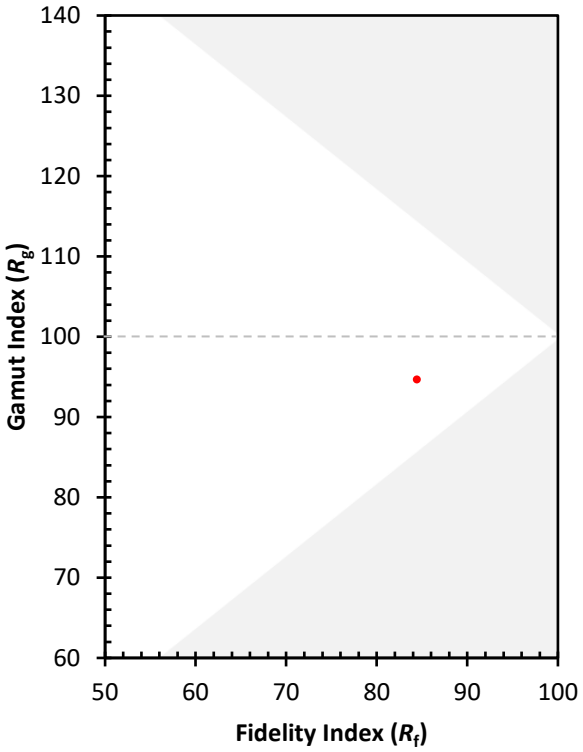
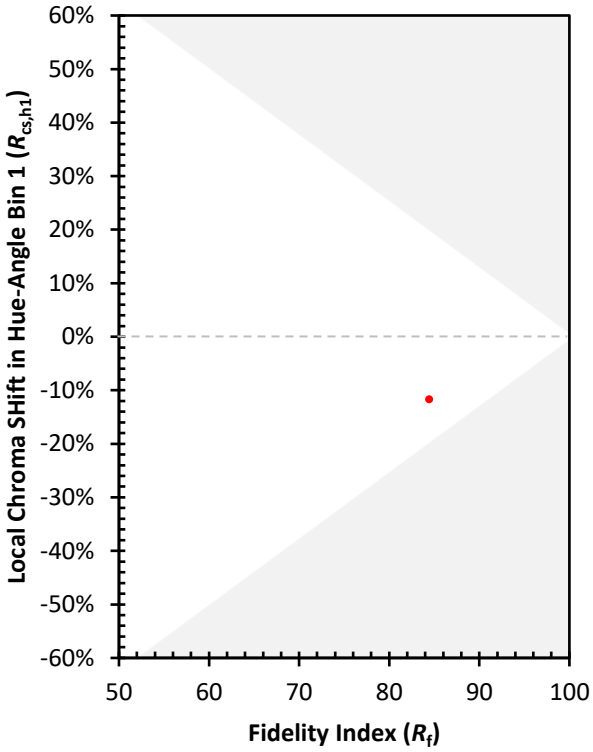
Measure Comparisons





(END OF REPORT)