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: P879594

Luminaire Tested: **MEM2-HTN-VA-160-730-U-CQ**

Issue Date: 10/01/2024

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:	P879594
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	10/01/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HTN-VA-160-730-U-CQ
Description:	EPIC MODERN TALL HOUSING 160W 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:	13855.8 lumens
Efficiency:	N/A
Efficacy:	88.8 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G2

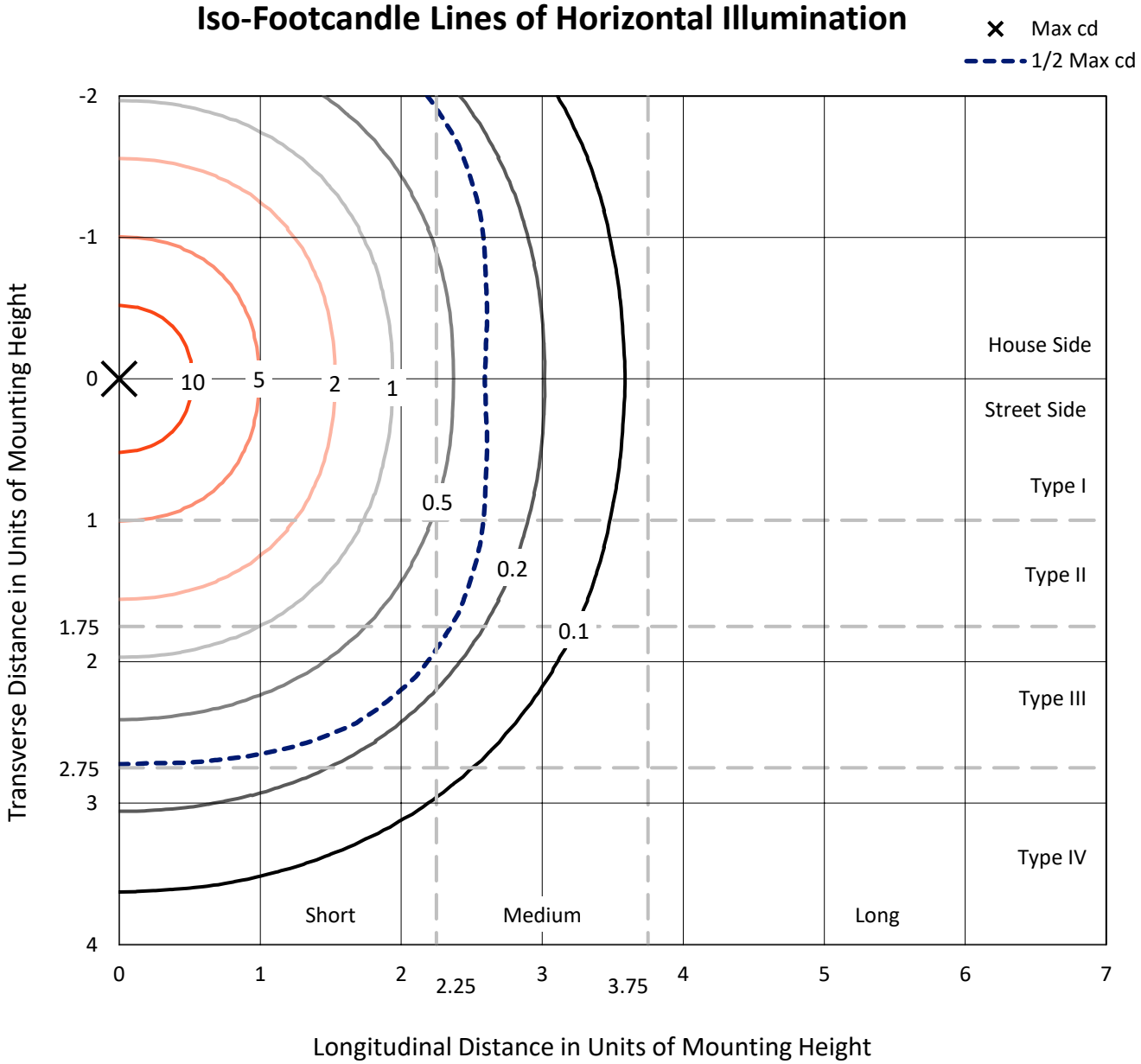
Input Watts (W):	156
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.995
Total Harmonic Distortion (THDi):	6.6%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

REPORT NUMBER: P879594
CATALOG NUMBER: MEM2-HTN-VA-160-730-U-CQ

Iso-Footcandle Lines of Horizontal Illumination



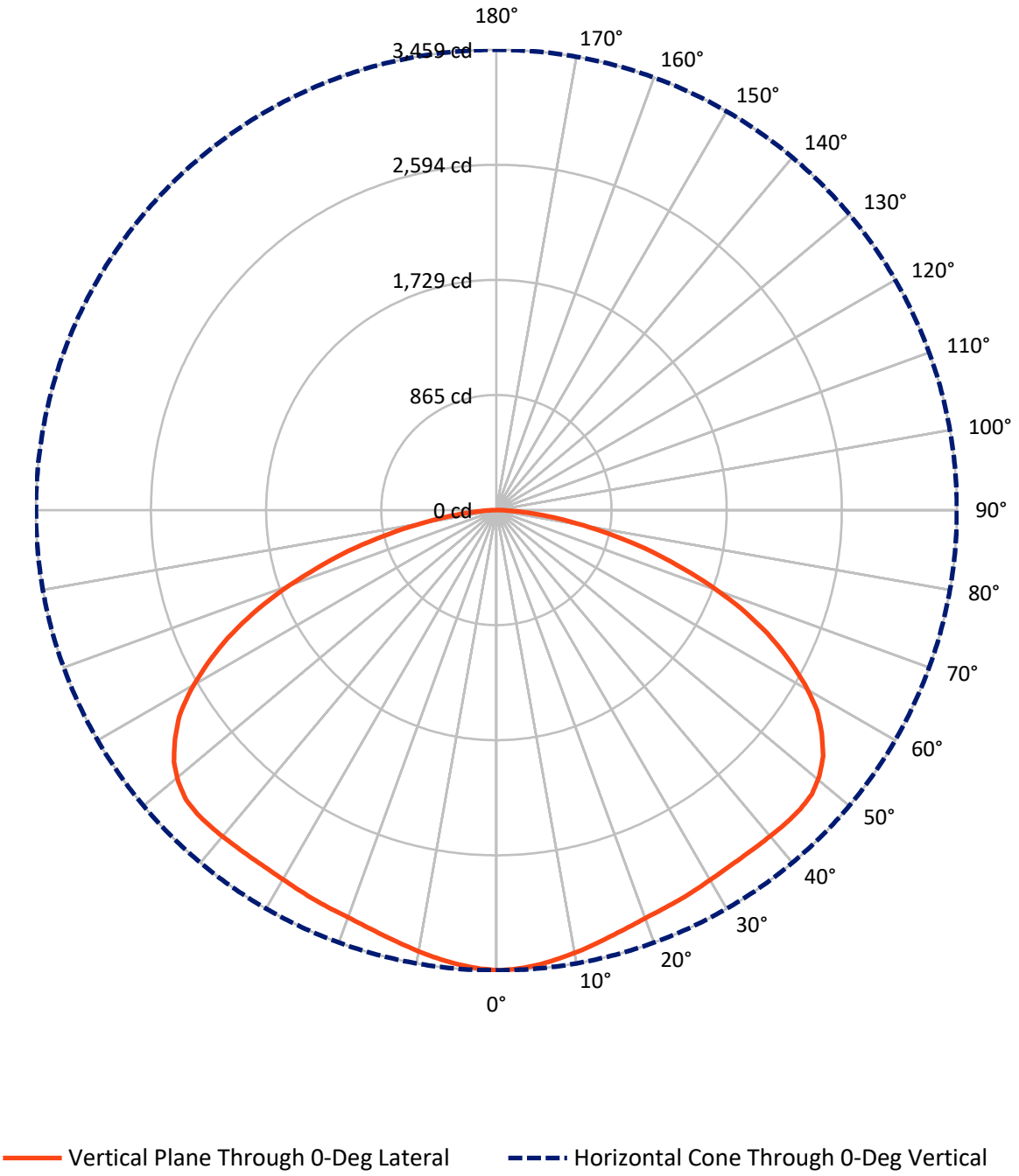
Based on 15 foot mounting height. Maximum calculated value = 15.4 fc
Type V - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P879594
CATALOG NUMBER: MEM2-HTN-VA-160-730-U-CQ

Luminous Intensity Polar Plot



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

Scaled Data Report

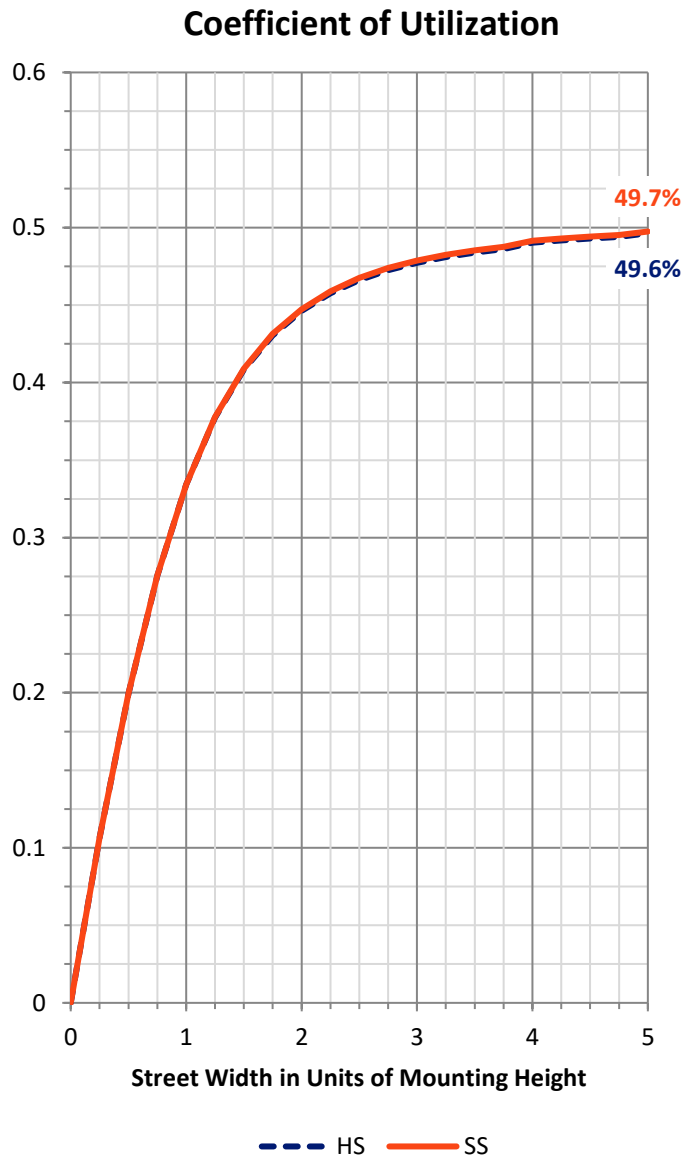
REPORT NUMBER: P879594
CATALOG NUMBER: MEM2-HTN-VA-160-730-U-CQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6927.9	0.0	6927.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6927.9	0.0	6927.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	13855.8	0.0	13855.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.9	2.4
10°-20°	940.4	6.8
20°-30°	1505.6	10.9
30°-40°	2039.6	14.7
40°-50°	2518.7	18.2
50°-60°	2706.1	19.5
60°-70°	2275.7	16.4
70°-80°	1270.7	9.2
80°-90°	273.0	2.0
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°	13855.8	100.0
0°-180°	13855.8	100.0



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

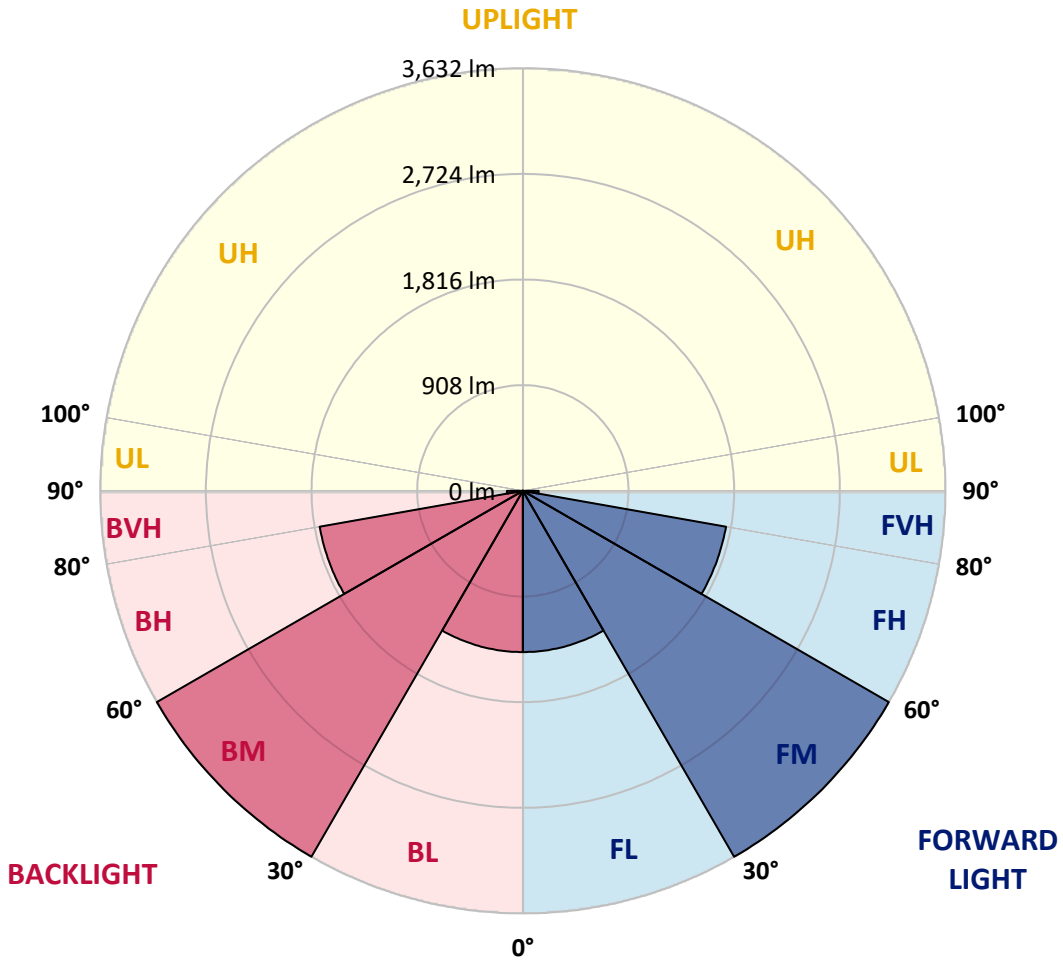
Scaled Data Report

REPORT NUMBER: P879594
CATALOG NUMBER: MEM2-HTN-VA-160-730-U-CQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1386.0	10.0			
FM	(30°-60°)	3632.2	26.2			
FH	(60°-80°)	1773.2	12.8			G1/1800
FVH	(80°-90°)	136.5	1.0			G2/225
BL	(0°-30°)	1386.0	10.0	B3/2500		
BM	(30°-60°)	3632.2	26.2	B3/5000		
BH	(60°-80°)	1773.2	12.8	B3/2500		G1/1800
BVH	(80°-90°)	136.5	1.0			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2
Type V Short



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

Scaled Data Report

REPORT NUMBER: P879594
CATALOG NUMBER: MEM2-HTN-VA-160-730-U-CQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*	*3458.6*
2.5°	*3448.3*	3451.7	3450.8	3450.8	3450.8	3452.6	3452.6	3452.6	3453.4	3453.4	3454.3
5°	*3428.5*	3431.1	3431.1	3431.1	3432.8	3433.7	3433.7	3434.5	3436.2	3435.4	3434.5
7.5°	*3401.9*	3404.5	3404.5	3404.5	3406.2	3407.9	3407.9	3407.0	3409.6	3409.6	3408.7
10°	*3373.5*	3374.4	3375.2	3377.0	3379.5	3380.4	3379.5	3379.5	3378.7	3379.5	3379.5
12.5°	*3340.0*	3344.3	3345.2	3346.9	3351.2	3352.0	3352.0	3351.2	3350.3	3350.3	3349.5
15°	*3310.0*	3311.7	3314.3	3317.7	3322.8	3324.6	3325.4	3322.8	3320.3	3319.4	3320.3
17.5°	*3282.5*	3285.0	3288.5	3291.9	3298.8	3302.2	3302.2	3298.8	3295.4	3293.6	3293.6
20°	*3260.1*	3262.7	3267.0	3272.2	3281.6	3285.9	3284.2	3280.7	3274.7	3272.2	3273.0
22.5°	*3245.5*	3249.0	3252.4	3260.1	3270.4	3275.6	3273.9	3267.9	3261.0	3256.7	3256.7
25°	*3233.5*	3236.1	3241.2	3251.5	3262.7	3268.7	3266.1	3258.4	3249.0	3243.8	3242.9
27.5°	*3219.8*	3223.2	3230.1	3243.8	3257.6	3262.7	3261.0	3249.8	3238.7	3231.8	3230.1
30°	*3206.9*	3210.3	3219.8	3235.2	3252.4	3260.1	3255.8	3243.8	3230.1	3221.5	3220.6
32.5°	*3198.3*	3202.6	3213.7	3233.5	3254.1	3265.3	3261.0	3246.4	3228.3	3217.2	3216.3
35°	*3194.8*	3199.1	3215.5	3239.5	3265.3	3280.7	3274.7	3256.7	3234.4	3220.6	3218.9
37.5°	*3195.7*	3200.9	3221.5	3253.3	3285.9	3302.2	3294.5	3271.3	3242.9	3224.0	3221.5
40°	*3199.1*	3205.2	3231.8	3271.3	3310.0	3325.4	3313.4	3279.0	3240.4	3213.7	3208.6
42.5°	*3203.4*	3212.9	3245.5	3291.9	3332.3	3345.2	3323.7	3273.0	3218.9	3184.5	3180.2
45°	*3202.6*	3210.3	3248.1	3303.1	3346.0	3352.9	3317.7	3254.1	3190.5	3145.9	3142.4
47.5°	*3188.0*	3195.7	3238.7	3299.6	3341.7	3343.5	3301.4	3228.3	3153.6	3102.1	3096.9
50°	*3142.4*	3152.7	3200.9	3267.9	3315.1	3316.0	3269.6	3188.8	3102.1	3041.9	3033.3
52.5°	*3072.9*	3080.6	3136.4	3208.6	3261.8	3268.7	3218.0	3124.4	3025.6	2961.2	2955.2
55°	*2964.6*	2980.1	3039.4	3114.9	3173.4	3181.1	3130.4	3029.0	2927.7	2853.8	2846.9
57.5°	*2839.2*	2841.8	2904.5	2986.9	3047.9	3056.5	3001.6	2898.5	2792.8	2724.1	2706.9
60°	*2662.2*	2672.5	2731.8	2812.6	2877.0	2888.2	2835.8	2736.1	2626.1	2548.0	2547.1
62.5°	*2457.8*	2469.8	2529.9	2615.8	2681.1	2692.3	2636.5	2539.4	2429.4	2362.4	2338.4
65°	*2236.1*	2239.6	2299.7	2384.7	2444.0	2450.0	2406.2	2314.3	2200.9	2132.2	2116.7
67.5°	*1987.0*	1990.4	2036.8	2116.7	2180.3	2188.9	2144.2	2060.0	1957.8	1885.6	1877.9
70°	*1711.2*	1712.1	1757.6	1822.9	1886.5	1904.5	1864.2	1783.4	1685.5	1627.9	1612.5
72.5°	*1420.9*	1428.6	1469.0	1536.9	1591.0	1595.3	1562.6	1493.0	1413.2	1365.9	1357.3
75°	*1155.4*	1150.3	1184.6	1225.9	1268.0	1281.7	1255.1	1207.8	1134.0	1092.7	1101.3
77.5°	*867.6*	869.4	896.0	933.8	960.4	984.5	954.4	932.1	872.8	825.6	827.3
80°	*613.4*	611.7	636.6	654.6	684.7	688.1	671.8	641.7	603.9	584.2	582.4
82.5°	*388.3*	380.6	399.5	422.7	435.5	429.5	433.0	413.2	383.1	372.8	363.4
85°	*198.4*	196.7	207.0	215.6	225.1	225.1	219.9	204.5	198.4	186.4	183.0
87.5°	*67.9*	70.4	73.9	71.3	75.6	73.9	72.2	61.0	54.1	50.7	47.2
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: SP1-2407-176-20

Test Date: 10/23/2024

Luminaire Tested: MEM2-HTN-VA-160-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-160-740-U-WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

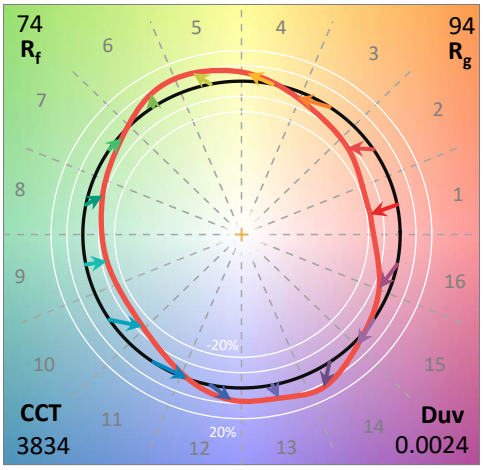
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-20
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	10/23/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-1[illegible]-740-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 160W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	3834
CIE u':	0.2270
CIE v':	0.5077
Duv:	0.0024
CIE x:	0.3900
CIE y:	0.3877
CIE z:	0.2223
Peak Wavelength (nm):	585
Dominant Wavelength (nm):	578
Purity:	33.41599
Rf:	74.4
Rg:	93.6

CRI (Ra):	71.3
R1:	67.4
R2:	78.6
R3:	88.2
R4:	70.0
R5:	67.5
R6:	70.1
R7:	80.0
R8:	48.5
R9:	-37.8
R10:	50.1
R11:	65.6
R12:	44.1
R13:	69.2
R14:	93.3
R15:	59.4



Test Conditions

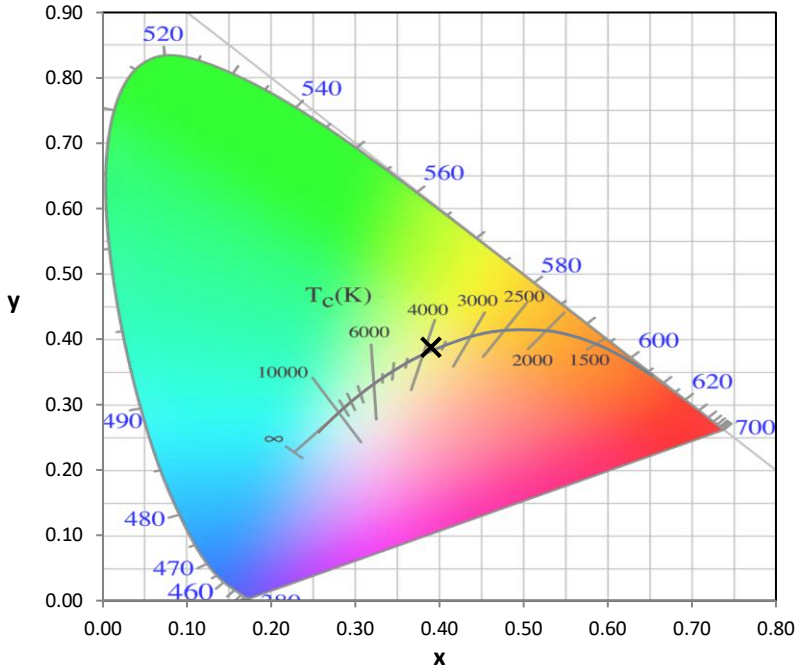
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2407-176-20

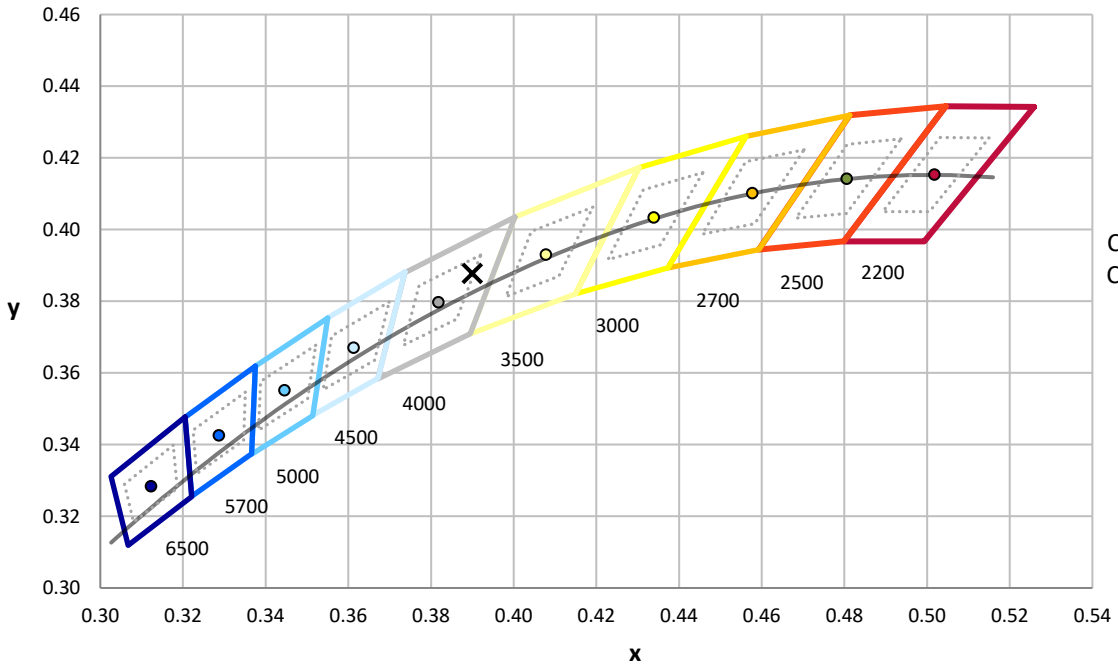
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085	10/22/2024	10/22/2025
Room Thermometer	IN0046	10/22/2024	10/22/2025

REPORT NUMBER: SP1-2407-176-20

CIE 1931 Chromaticity Diagram



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

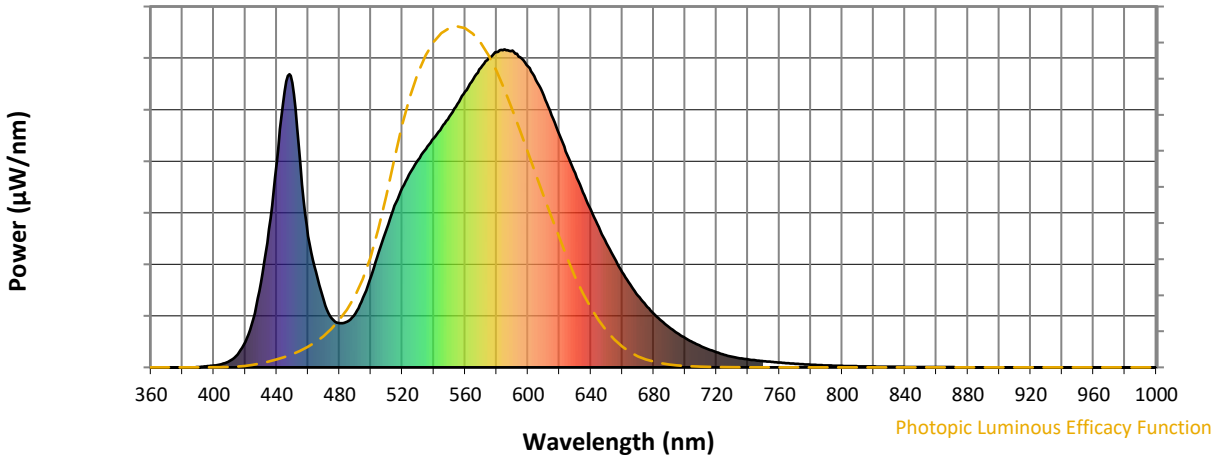


CCT = 3834K
CIE x = 0.3900
CIE y = 0.3877
Duv = 0.0024

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-20

Photopic Flux vs. Wavelength

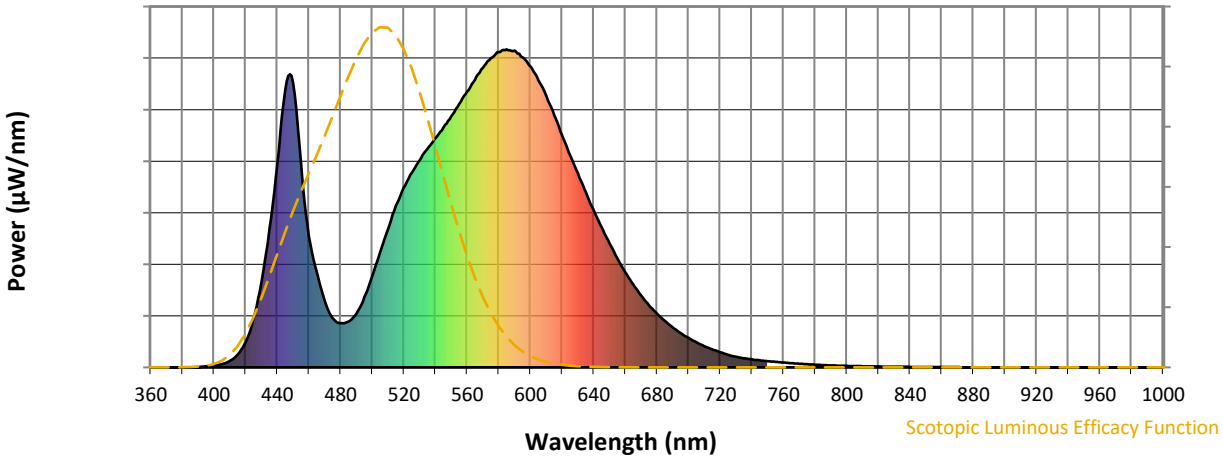


Photopic Lumens: NR

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	169	NR	620	731	NR	750	20	NR	880	0	NR
365	0	NR	495	219	NR	625	668	NR	755	17	NR	885	0	NR
370	0	NR	500	285	NR	630	611	NR	760	15	NR	890	0	NR
375	0	NR	505	362	NR	635	550	NR	765	13	NR	895	0	NR
380	0	NR	510	435	NR	640	495	NR	770	11	NR	900	0	NR
385	0	NR	515	508	NR	645	440	NR	775	10	NR	905	0	NR
390	1	NR	520	565	NR	650	390	NR	780	8	NR	910	0	NR
395	3	NR	525	612	NR	655	343	NR	785	7	NR	915	0	NR
400	6	NR	530	652	NR	660	299	NR	790	6	NR	920	0	NR
405	10	NR	535	687	NR	665	261	NR	795	5	NR	925	0	NR
410	20	NR	540	720	NR	670	226	NR	800	5	NR	930	0	NR
415	40	NR	545	755	NR	675	195	NR	805	4	NR	935	0	NR
420	80	NR	550	789	NR	680	169	NR	810	3	NR	940	0	NR
425	152	NR	555	828	NR	685	146	NR	815	3	NR	945	0	NR
430	266	NR	560	867	NR	690	126	NR	820	3	NR	950	0	NR
435	435	NR	565	905	NR	695	108	NR	825	2	NR	955	0	NR
440	641	NR	570	942	NR	700	92	NR	830	2	NR	960	0	NR
445	869	NR	575	972	NR	705	79	NR	835	2	NR	965	0	NR
450	894	NR	580	991	NR	710	67	NR	840	2	NR	970	0	NR
455	640	NR	585	1000	NR	715	56	NR	845	1	NR	975	0	NR
460	413	NR	590	996	NR	720	47	NR	850	1	NR	980	0	NR
465	300	NR	595	975	NR	725	40	NR	855	1	NR	985	0	NR
470	208	NR	600	946	NR	730	33	NR	860	1	NR	990	0	NR
475	154	NR	605	903	NR	735	29	NR	865	1	NR	995	0	NR
480	139	NR	610	854	NR	740	25	NR	870	1	NR	1000	0	NR
485	144	NR	615	793	NR	745	22	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-20

Scotopic Flux vs. Wavelength

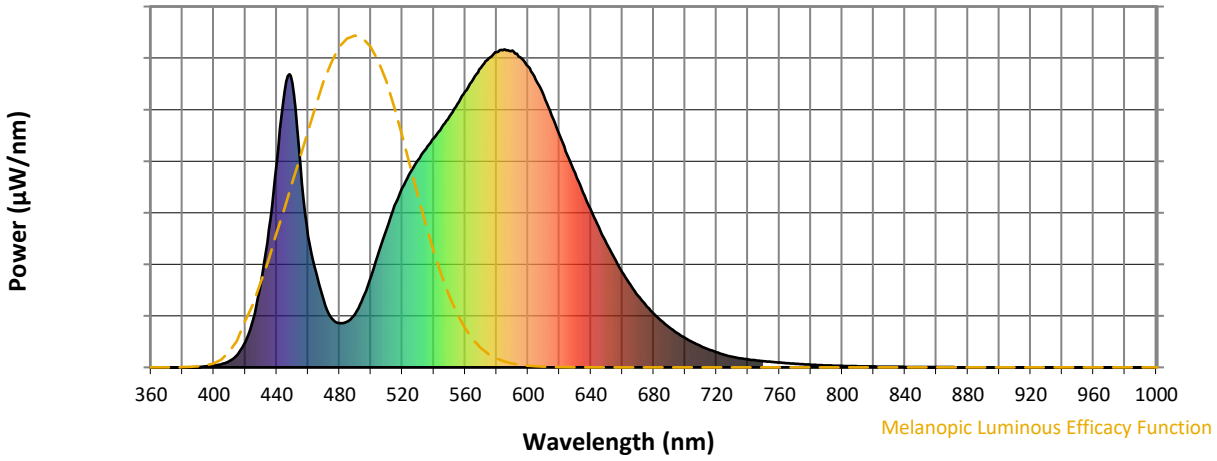


Scotopic Lumens: NR **S/P: 1.47**

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	169	NR	620	731	NR	750	20	NR	880	0	NR
365	0	NR	495	219	NR	625	668	NR	755	17	NR	885	0	NR
370	0	NR	500	285	NR	630	611	NR	760	15	NR	890	0	NR
375	0	NR	505	362	NR	635	550	NR	765	13	NR	895	0	NR
380	0	NR	510	435	NR	640	495	NR	770	11	NR	900	0	NR
385	0	NR	515	508	NR	645	440	NR	775	10	NR	905	0	NR
390	1	NR	520	565	NR	650	390	NR	780	8	NR	910	0	NR
395	3	NR	525	612	NR	655	343	NR	785	7	NR	915	0	NR
400	6	NR	530	652	NR	660	299	NR	790	6	NR	920	0	NR
405	10	NR	535	687	NR	665	261	NR	795	5	NR	925	0	NR
410	20	NR	540	720	NR	670	226	NR	800	5	NR	930	0	NR
415	40	NR	545	755	NR	675	195	NR	805	4	NR	935	0	NR
420	80	NR	550	789	NR	680	169	NR	810	3	NR	940	0	NR
425	152	NR	555	828	NR	685	146	NR	815	3	NR	945	0	NR
430	266	NR	560	867	NR	690	126	NR	820	3	NR	950	0	NR
435	435	NR	565	905	NR	695	108	NR	825	2	NR	955	0	NR
440	641	NR	570	942	NR	700	92	NR	830	2	NR	960	0	NR
445	869	NR	575	972	NR	705	79	NR	835	2	NR	965	0	NR
450	894	NR	580	991	NR	710	67	NR	840	2	NR	970	0	NR
455	640	NR	585	1000	NR	715	56	NR	845	1	NR	975	0	NR
460	413	NR	590	996	NR	720	47	NR	850	1	NR	980	0	NR
465	300	NR	595	975	NR	725	40	NR	855	1	NR	985	0	NR
470	208	NR	600	946	NR	730	33	NR	860	1	NR	990	0	NR
475	154	NR	605	903	NR	735	29	NR	865	1	NR	995	0	NR
480	139	NR	610	854	NR	740	25	NR	870	1	NR	1000	0	NR
485	144	NR	615	793	NR	745	22	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-20

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.83**

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	169	NR	620	731	NR	750	20	NR	880	0	NR
365	0	NR	495	219	NR	625	668	NR	755	17	NR	885	0	NR
370	0	NR	500	285	NR	630	611	NR	760	15	NR	890	0	NR
375	0	NR	505	362	NR	635	550	NR	765	13	NR	895	0	NR
380	0	NR	510	435	NR	640	495	NR	770	11	NR	900	0	NR
385	0	NR	515	508	NR	645	440	NR	775	10	NR	905	0	NR
390	1	NR	520	565	NR	650	390	NR	780	8	NR	910	0	NR
395	3	NR	525	612	NR	655	343	NR	785	7	NR	915	0	NR
400	6	NR	530	652	NR	660	299	NR	790	6	NR	920	0	NR
405	10	NR	535	687	NR	665	261	NR	795	5	NR	925	0	NR
410	20	NR	540	720	NR	670	226	NR	800	5	NR	930	0	NR
415	40	NR	545	755	NR	675	195	NR	805	4	NR	935	0	NR
420	80	NR	550	789	NR	680	169	NR	810	3	NR	940	0	NR
425	152	NR	555	828	NR	685	146	NR	815	3	NR	945	0	NR
430	266	NR	560	867	NR	690	126	NR	820	3	NR	950	0	NR
435	435	NR	565	905	NR	695	108	NR	825	2	NR	955	0	NR
440	641	NR	570	942	NR	700	92	NR	830	2	NR	960	0	NR
445	869	NR	575	972	NR	705	79	NR	835	2	NR	965	0	NR
450	894	NR	580	991	NR	710	67	NR	840	2	NR	970	0	NR
455	640	NR	585	1000	NR	715	56	NR	845	1	NR	975	0	NR
460	413	NR	590	996	NR	720	47	NR	850	1	NR	980	0	NR
465	300	NR	595	975	NR	725	40	NR	855	1	NR	985	0	NR
470	208	NR	600	946	NR	730	33	NR	860	1	NR	990	0	NR
475	154	NR	605	903	NR	735	29	NR	865	1	NR	995	0	NR
480	139	NR	610	854	NR	740	25	NR	870	1	NR	1000	0	NR
485	144	NR	615	793	NR	745	22	NR	875	0	NR			

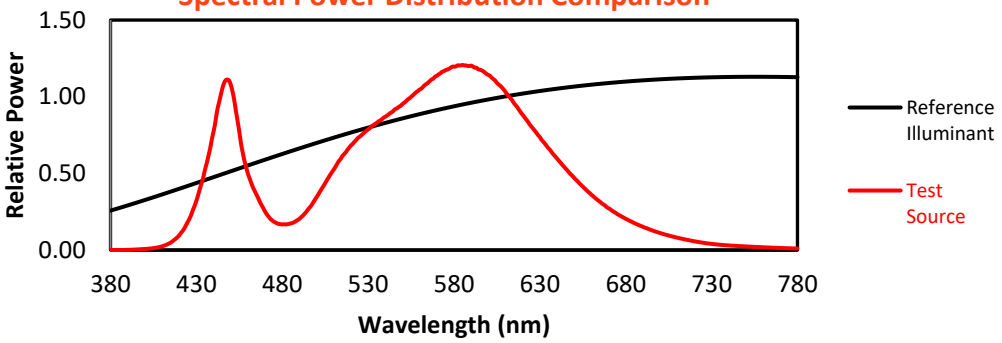
REPORT NUMBER: SP1-2407-176-20

TM-30-18

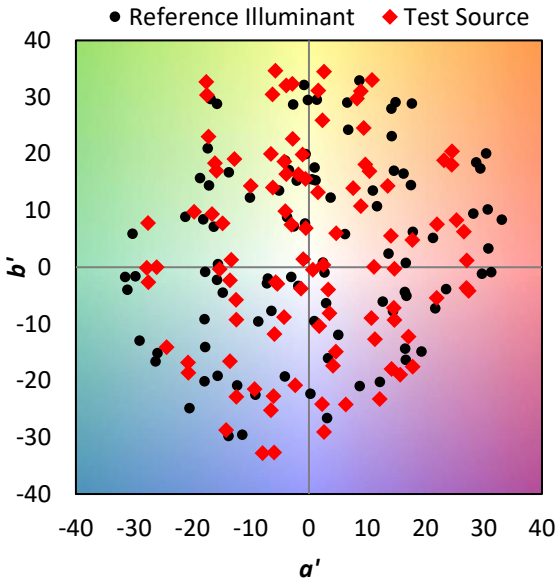
Summary

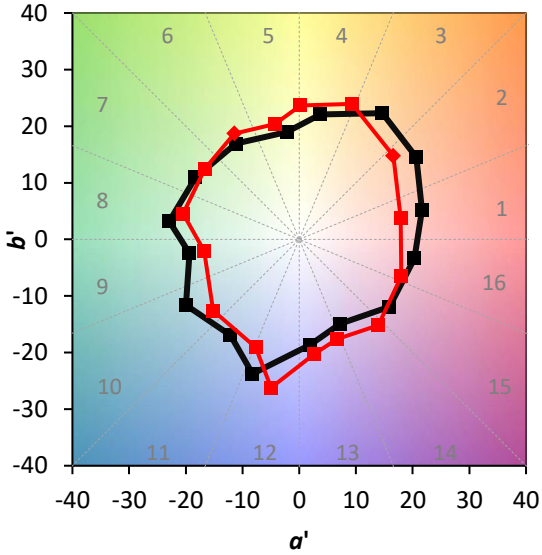
R_f = 74.4
R_g = 93.6
CIE R_a = 71.3
R_9 = -37.8

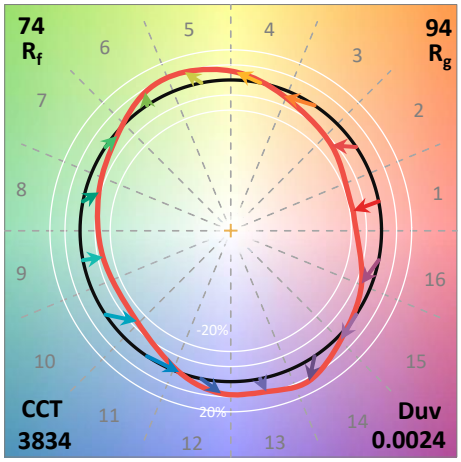
Spectral Power Distribution Comparison

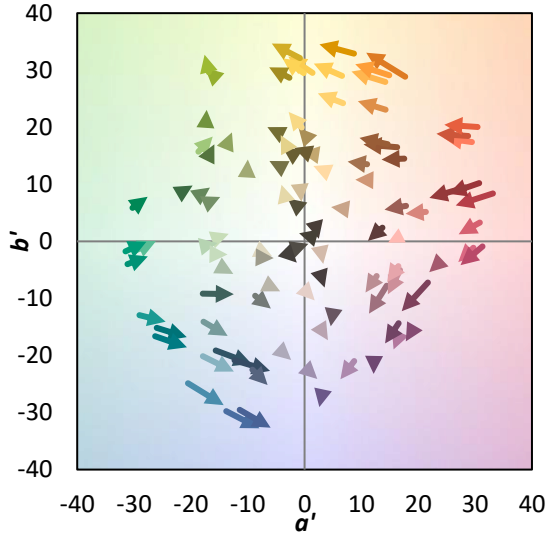


Color Vector Graphics







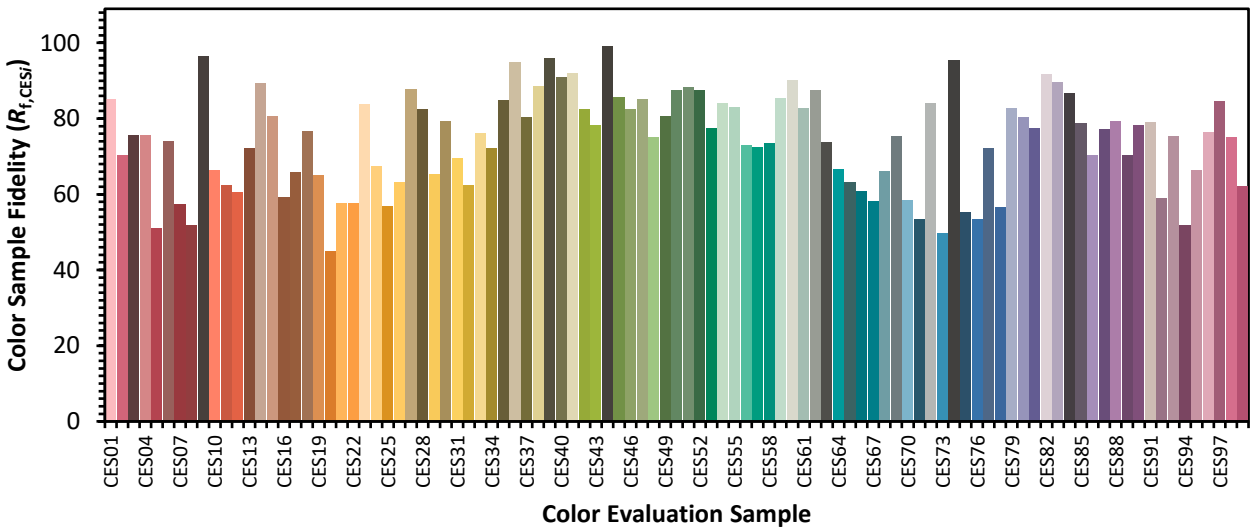


REPORT NUMBER: SP1-2407-176-20

TM-30-18

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

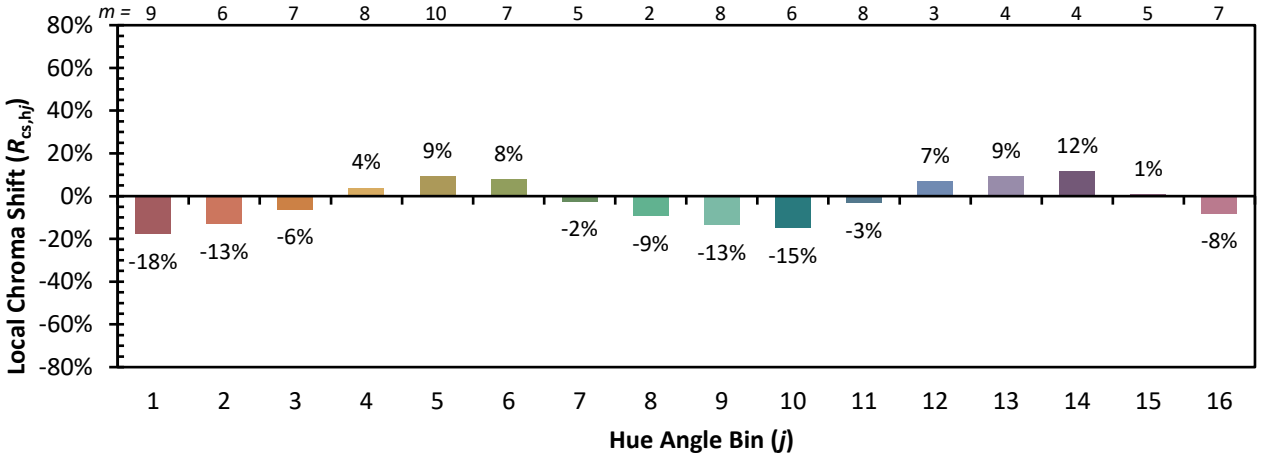
CES01 = 85	CES26 = 63	CES51 = 88	CES76 = 54
CES02 = 61	CES27 = 88	CES52 = 87	CES77 = 72
CES03 = 30	CES28 = 83	CES53 = 77	CES78 = 57
CES04 = 70	CES29 = 65	CES54 = 84	CES79 = 83
CES05 = 47	CES30 = 79	CES55 = 83	CES80 = 80
CES06 = 50	CES31 = 69	CES56 = 73	CES81 = 78
CES07 = 40	CES32 = 62	CES57 = 72	CES82 = 92
CES08 = 39	CES33 = 76	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 85	CES84 = 87
CES10 = 74	CES35 = 85	CES60 = 90	CES85 = 79
CES11 = 57	CES36 = 95	CES61 = 83	CES86 = 70
CES12 = 63	CES37 = 80	CES62 = 88	CES87 = 77
CES13 = 42	CES38 = 89	CES63 = 74	CES88 = 79
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 70
CES15 = 71	CES40 = 91	CES65 = 63	CES90 = 78
CES16 = 46	CES41 = 92	CES66 = 61	CES91 = 79
CES17 = 49	CES42 = 83	CES67 = 58	CES92 = 59
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 75
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 52
CES20 = 65	CES45 = 86	CES70 = 59	CES95 = 67
CES21 = 86	CES46 = 82	CES71 = 54	CES96 = 76
CES22 = 78	CES47 = 85	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 75	CES73 = 50	CES98 = 75
CES24 = 91	CES49 = 81	CES74 = 96	CES99 = 62
CES25 = 72	CES50 = 88	CES75 = 55	

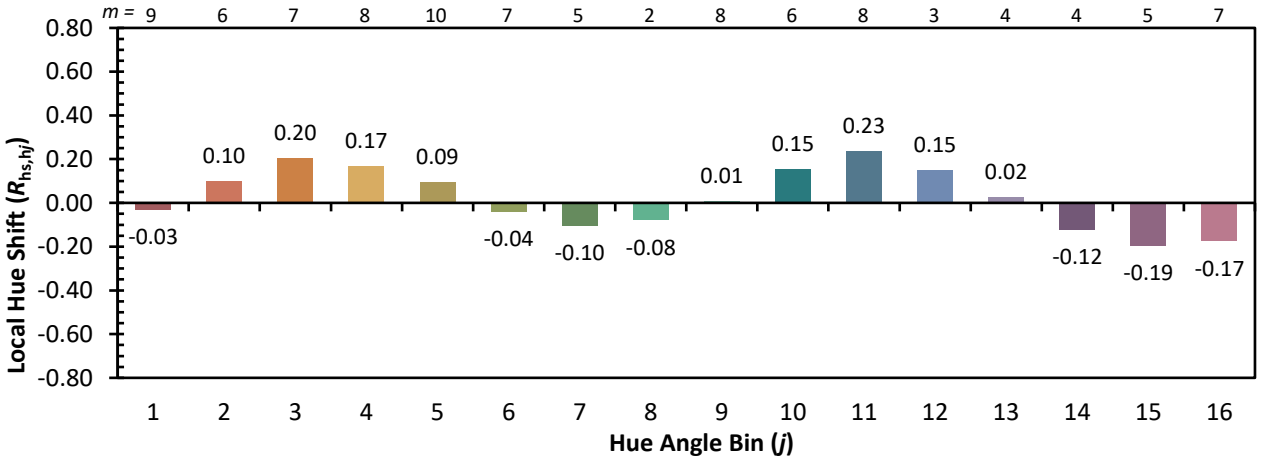


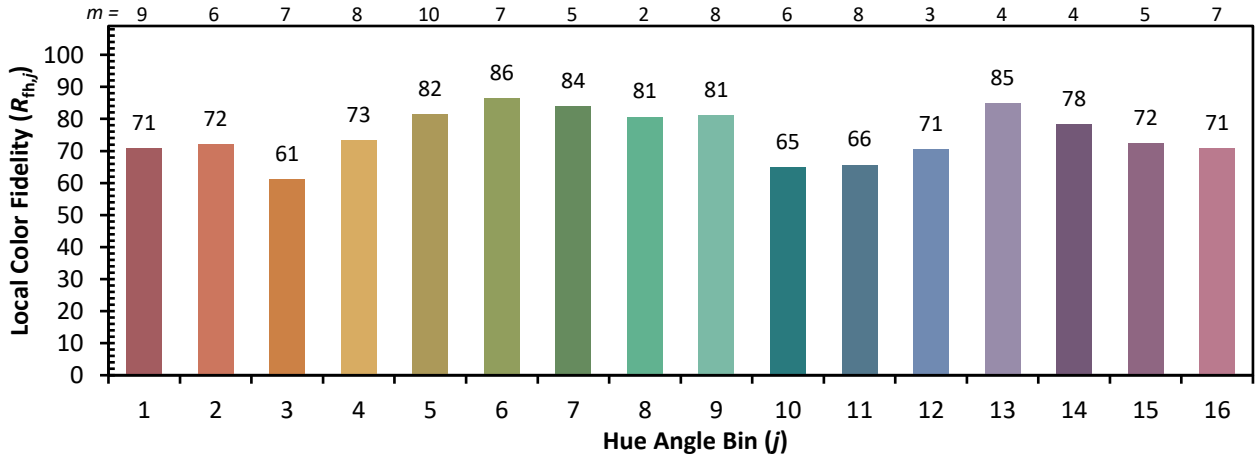
REPORT NUMBER: SP1-2407-176-20

TM-30-18

Color Rendition by Hue-Angle Bin



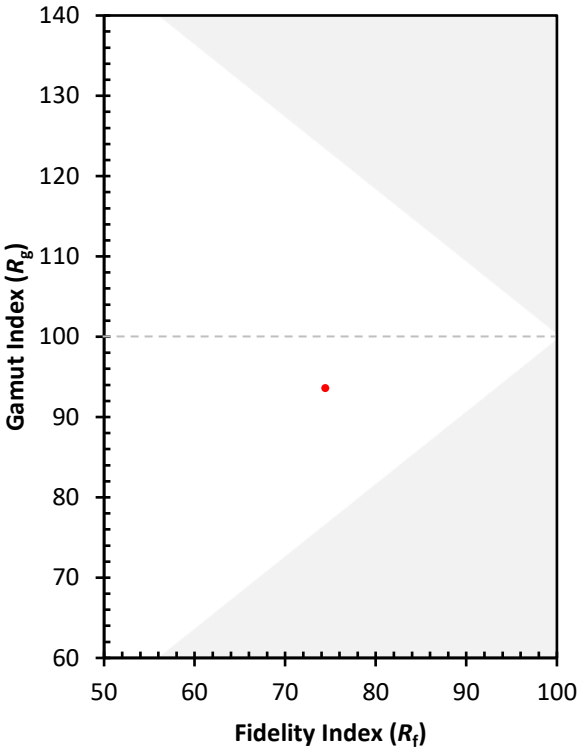


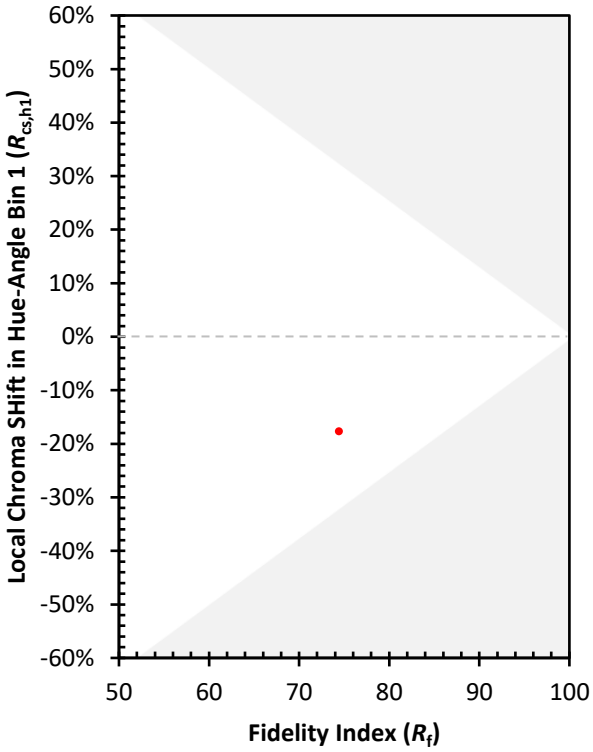


REPORT NUMBER: SP1-2407-176-20

TM-30-18

Measure Comparisons





(END OF REPORT)