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: McGRAW-EDISON

Report Number: P832837

Luminaire Tested: **TTN-D0-740-U-DL-UPL1**

Issue Date: 5/15/2024

Report Generated By 670246001

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Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P832837
	REPORT IS FROM IESNA LM-79-08 TEST DATA - UPLIGHT (G3-2308-121-4) AND
Test Lab:	INNOVATION CENTER
Issue Date:	5/15/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	McGRAW-EDISON
Catalog Number:	TTN-D0-740-U-DL-UPL1
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE WITH UPLIGHT
	4000K, 70 CRI LEDS AND DRIVE LANE DISTRIBUTION
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1475.8 lumens
Efficiency:	N/A
Efficacy:	111.0 lumens/watt
Luminous Opening:	Vertical Cylinder (Dia: 0.71' x H: 0.1')
IES Classification:	Type IV - Short
BUG Rating:	B0 - U3 - G1

Input Watts (W):	13.3
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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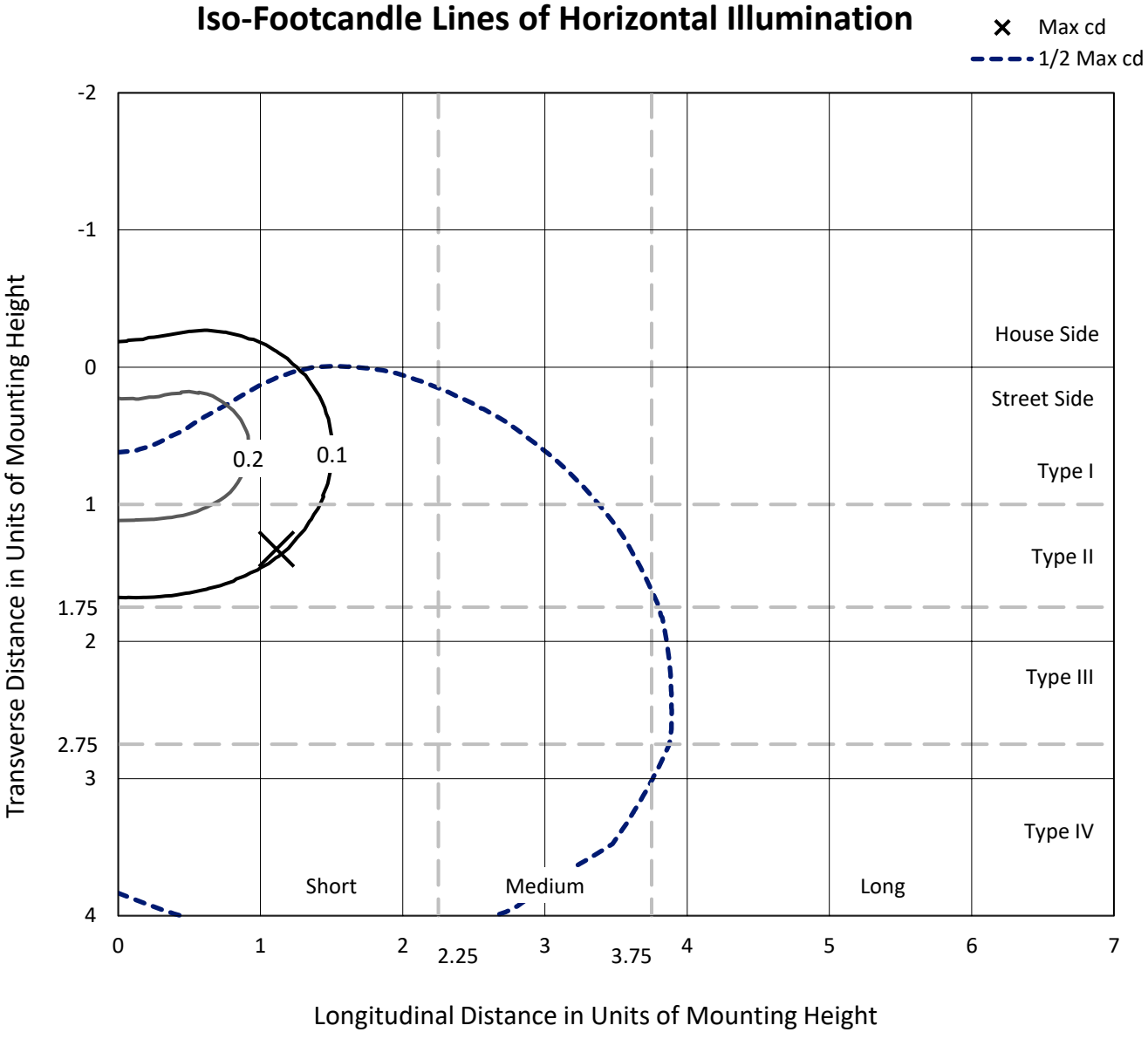
Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 0.3 fc
Type IV - Short - N/A

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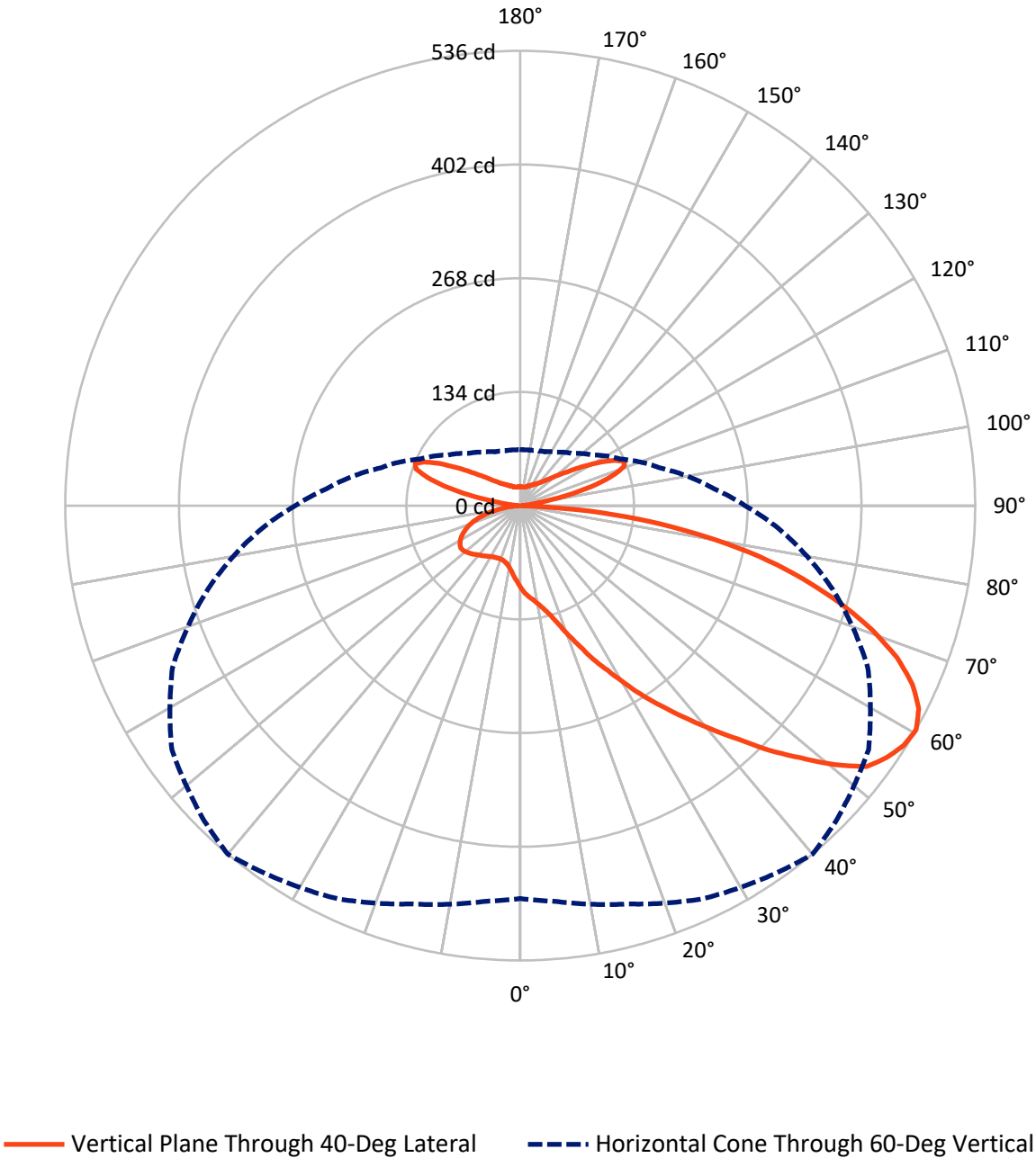
Luminous Intensity Polar Plot



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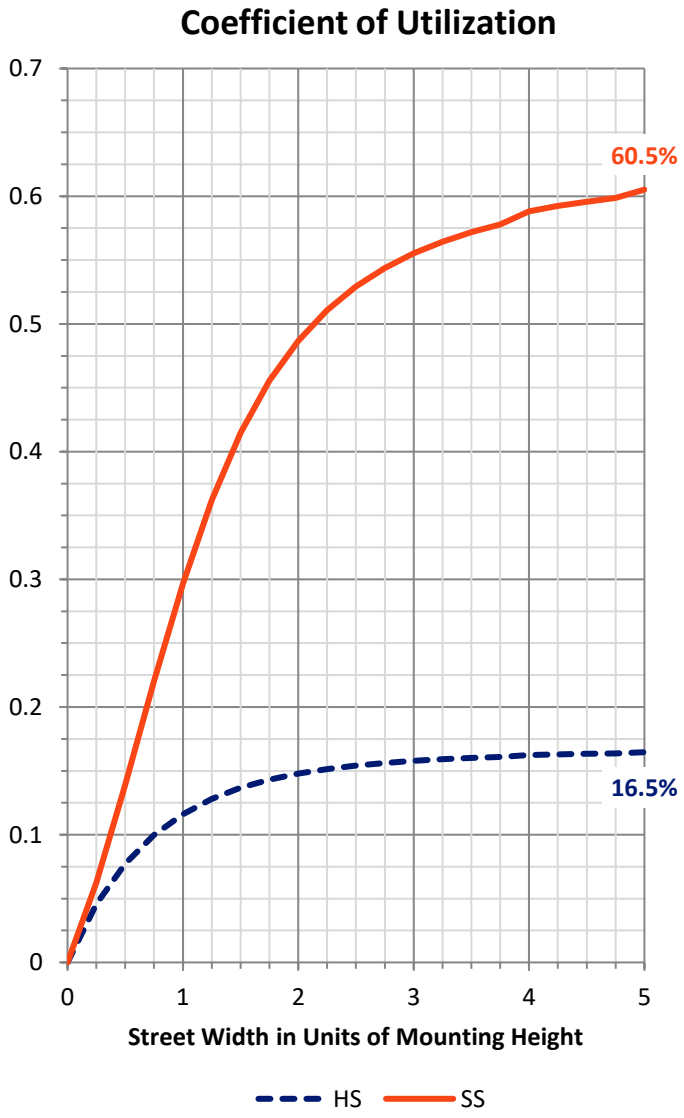
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	245.5	161.7	407.2
	% Fixture	16.6	11.0	27.6
Street Side	Lumens	906.9	161.7	1068.6
	% Fixture	61.5	11.0	72.4
Total	Lumens	1152.4	323.4	1475.8
	% Fixture	78.1	21.9	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	9.1	0.6
10°-20°	29.2	2.0
20°-30°	61.7	4.2
30°-40°	112.7	7.6
40°-50°	183.2	12.4
50°-60°	254.6	17.3
60°-70°	264.0	17.9
70°-80°	189.2	12.8
80°-90°	48.7	3.3
90°-100°	7.2	0.5
100°-110°	73.4	5.0
110°-120°	107.3	7.3
120°-130°	62.3	4.2
130°-140°	33.0	2.2
140°-150°	19.6	1.3
150°-160°	12.1	0.8
160°-170°	6.6	0.4
170°-180°	2.1	0.1
0°-90°	1152.4	78.1
0°-180°	1475.8	100.0



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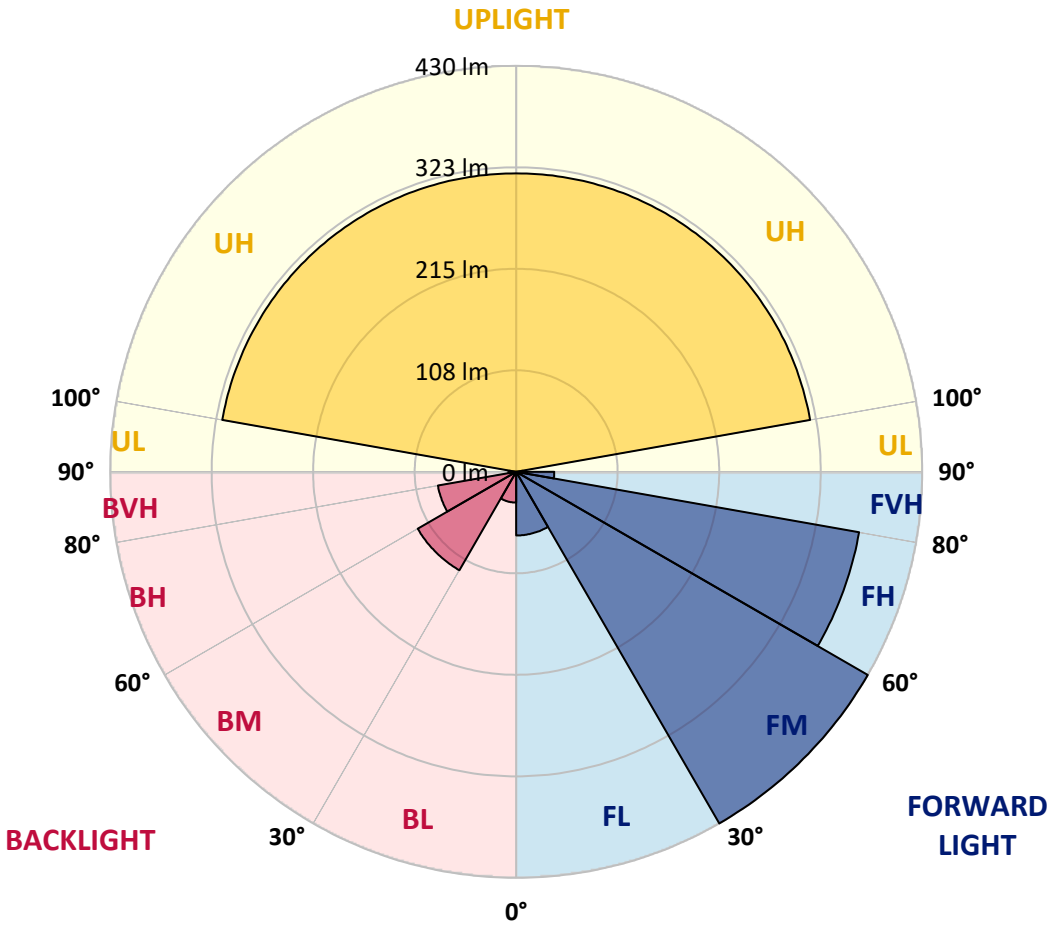
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	67.4	4.6			
FM	(30°-60°)	430.2	29.1			
FH	(60°-80°)	368.9	25.0			G0/660
FVH	(80°-90°)	40.4	2.7			G1/100
BL	(0°-30°)	32.6	2.2	B0/110		
BM	(30°-60°)	120.4	8.2	B0/220		
BH	(60°-80°)	84.2	5.7	B0/110		G0/110
BVH	(80°-90°)	8.3	0.6			G0/10
UL	(90°-100°)	7.2	0.5		U1/10	
UH	(100°-180°)	316.2	21.4		U3/500	

BUG Rating: B0-U3-G1
Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	97.0	97.0	97.0	97.0	97.0	*97.0*	97.0	97.0	97.0	97.0	97.0
2.5°	104.0	104.0	104.0	104.0	103.0	*103.0*	102.0	101.0	100.0	99.0	97.0
5°	113.0	113.0	112.0	111.0	109.0	*108.0*	107.0	105.0	103.0	101.0	98.0
7.5°	117.0	117.0	117.0	116.0	113.0	*112.0*	110.0	107.0	104.0	101.0	97.0
10°	124.0	124.0	123.0	122.0	119.0	*118.0*	116.0	112.0	107.0	102.0	97.0
12.5°	133.0	132.0	131.0	130.0	127.0	*125.0*	122.0	118.0	112.0	106.0	100.0
15°	144.0	142.0	142.0	140.0	137.0	*134.0*	132.0	126.0	120.0	112.0	104.0
17.5°	156.0	155.0	154.0	152.0	149.0	*147.0*	144.0	137.0	129.0	119.0	110.0
20°	171.0	169.0	170.0	167.0	164.0	*163.0*	158.0	150.0	140.0	129.0	118.0
22.5°	189.0	187.0	187.0	184.0	182.0	*180.0*	175.0	166.0	153.0	141.0	127.0
25°	209.1	207.1	207.1	205.1	203.0	*201.0*	195.0	185.0	170.0	155.0	139.0
27.5°	231.1	229.1	229.1	228.1	223.1	*220.1*	215.1	204.1	189.0	170.0	151.0
30°	254.1	252.1	254.1	252.1	249.1	*243.1*	237.1	225.1	208.1	187.0	164.0
32.5°	272.1	272.1	273.1	275.1	273.1	*268.1*	261.1	251.1	228.1	202.0	176.0
35°	293.1	293.1	295.1	298.1	297.1	*292.1*	285.1	274.1	250.1	219.1	189.0
37.5°	316.1	316.1	318.1	323.1	321.1	*318.1*	313.1	299.1	272.1	236.1	203.0
40°	341.1	340.1	342.1	349.1	350.1	*346.1*	340.1	326.1	295.1	258.1	218.1
42.5°	366.1	365.1	369.1	376.1	377.1	*376.1*	370.1	354.1	319.1	280.1	233.1
45°	391.1	391.1	397.1	408.1	413.1	*411.1*	406.1	386.1	349.1	303.1	253.1
47.5°	417.1	417.1	425.1	439.1	445.1	*444.1*	442.1	418.1	378.1	327.1	270.1
50°	437.1	437.1	450.1	466.1	476.1	*480.1*	470.1	448.1	403.1	348.1	284.1
52.5°	457.1	457.1	470.1	495.1	505.1	*511.1*	498.1	475.1	431.1	367.1	297.1
55°	467.1	469.1	487.1	511.1	527.1	*524.1*	529.1	498.1	449.1	381.1	305.1
57.5°	468.1	471.1	491.1	516.1	534.1	*533.1*	534.1	506.1	456.1	384.1	306.1
60°	*463.1*	*468.1*	*486.1*	*511.1*	*528.1*	*536.1*	*526.1*	*501.1*	*452.1*	*381.1*	*305.1*
62.5°	451.1	461.1	480.1	499.1	524.1	*527.1*	519.1	498.1	441.1	378.1	300.1
65°	424.1	435.1	462.1	484.1	504.1	*508.1*	499.1	481.1	430.1	364.1	284.1
67.5°	397.1	404.1	427.1	461.1	475.1	*479.1*	476.1	455.1	411.1	336.1	265.1
70°	366.1	375.1	393.1	428.1	442.1	*441.1*	450.1	426.1	382.1	312.1	245.1
72.5°	324.1	337.1	355.1	384.1	401.1	*395.1*	409.1	389.1	344.1	282.1	218.1
75°	275.1	286.1	309.1	332.1	351.1	*344.1*	355.1	341.1	300.1	246.1	187.0
77.5°	220.1	233.1	254.1	275.1	288.1	*288.1*	293.1	281.1	249.1	202.0	153.0
80°	163.0	175.0	194.0	209.1	221.1	*222.1*	227.1	221.1	192.0	157.0	117.0
82.5°	108.0	114.0	131.0	143.0	155.0	*154.0*	162.0	158.0	134.0	108.0	78.0
85°	46.0	50.0	64.0	74.0	85.0	*81.0*	92.0	91.0	72.0	52.0	35.0
87.5°	2.0	3.0	3.0	2.0	3.0	*1.0*	3.0	4.0	3.0	2.0	2.0
90°	2.8	2.8	3.3	3.3	3.3	*3.3*	3.3	3.3	3.3	3.3	2.8
92.5°	2.8	2.8	2.8	3.9	4.4	*4.2*	3.9	4.4	3.3	3.3	2.8
95°	3.3	3.3	3.9	5.0	6.1	*6.4*	6.6	6.6	3.9	3.9	3.3
97.5°	4.4	5.0	5.0	6.1	10.0	*14.2*	18.3	11.1	5.5	5.5	5.0
100°	7.2	7.7	7.7	13.8	29.3	*34.3*	39.3	28.2	14.4	10.5	7.7
102.5°	23.2	24.3	29.9	44.8	66.4	*63.4*	60.3	50.9	48.1	33.2	26.6
105°	59.2	58.7	63.1	74.7	93.0	*92.2*	91.3	84.1	76.4	65.8	60.9
107.5°	78.0	78.0	81.9	91.9	105.7	*114.6*	123.4	125.1	99.0	86.9	81.3
110°	88.0	88.0	91.3	99.6	117.9	*130.4*	142.8	141.6	122.3	107.3	100.2

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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
112.5°	90.2	90.7	95.2	107.9	127.8	*133.4*	138.9	133.9	126.2	119.5	114.0
115°	93.5	93.5	98.5	110.7	121.7	*124.0*	126.2	120.6	114.5	110.1	107.9
117.5°	92.4	94.1	95.2	101.8	109.0	*110.6*	112.3	109.6	101.3	97.9	96.8
120°	85.8	85.8	86.9	90.2	94.1	*94.9*	95.7	94.6	89.1	86.3	85.8
122.5°	76.4	76.9	76.4	78.0	80.8	*81.6*	82.4	81.3	76.9	75.8	75.8
125°	67.0	67.0	66.4	67.5	69.2	*68.9*	68.6	69.2	67.0	66.4	66.4
127.5°	60.3	59.8	58.7	59.2	59.8	*59.8*	59.8	60.3	58.1	58.7	59.2
130°	53.7	53.7	52.6	52.6	52.6	*52.0*	51.5	52.6	51.5	52.0	52.6
132.5°	47.6	47.6	45.9	45.4	45.4	*45.4*	45.4	45.9	45.4	46.5	47.6
135°	42.6	42.6	40.9	41.5	41.5	*41.2*	40.9	41.5	40.9	42.1	42.6
137.5°	38.7	38.7	37.6	37.6	37.6	*37.4*	37.1	37.6	37.6	38.2	39.3
140°	35.4	35.4	34.9	34.9	34.3	*34.6*	34.9	34.9	34.9	35.4	36.0
142.5°	33.8	33.2	32.6	32.1	32.6	*32.6*	32.6	32.6	32.1	32.6	33.8
145°	31.0	31.0	30.4	30.4	30.4	*30.7*	31.0	30.4	30.4	31.0	31.0
147.5°	29.3	29.3	28.8	29.3	29.3	*29.3*	29.3	29.3	28.8	29.3	29.3
150°	28.8	28.2	27.7	28.2	28.2	*28.0*	27.7	27.7	27.7	27.7	28.2
152.5°	27.1	27.1	26.6	27.1	26.6	*26.6*	26.6	26.6	26.6	26.6	27.1
155°	26.0	26.0	25.5	26.0	26.0	*26.0*	26.0	26.0	26.0	26.0	26.0
157.5°	24.9	25.5	24.9	24.9	24.9	*24.9*	24.9	24.9	24.9	24.9	25.5
160°	24.3	24.3	24.3	24.3	23.8	*23.8*	23.8	23.8	24.3	24.3	24.3
162.5°	23.8	23.8	23.8	23.8	23.2	*23.2*	23.2	23.2	23.2	23.8	23.8
165°	23.8	23.2	23.2	23.2	22.7	*22.7*	22.7	22.7	22.7	23.2	23.8
167.5°	22.7	22.7	22.7	22.7	22.7	*22.4*	22.1	22.1	22.7	22.7	22.7
170°	22.7	22.7	22.1	22.1	22.1	*22.1*	22.1	22.1	22.1	22.1	22.1
172.5°	22.7	22.7	22.7	22.7	22.1	*22.1*	22.1	22.1	22.1	22.1	22.7
175°	22.7	22.7	22.7	22.7	22.1	*22.1*	22.1	22.1	22.7	22.7	22.7
177.5°	22.7	22.7	22.7	22.7	22.1	*22.4*	22.7	22.7	22.7	22.7	22.7
180°	22.7	22.7	22.7	22.7	22.7	*22.7*	22.7	22.7	22.7	22.7	22.7

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
2.5°	97.0	96.0	94.0	93.0	92.0	90.0	90.0	89.0	89.0	89.0	88.0
5°	97.0	95.0	93.0	90.0	88.0	86.0	84.0	82.0	81.0	81.0	80.0
7.5°	95.0	93.0	90.0	87.0	84.0	80.0	78.0	74.0	73.0	72.0	72.0
10°	95.0	93.0	88.0	84.0	80.0	76.0	73.0	69.0	66.0	65.0	65.0
12.5°	96.0	93.0	88.0	83.0	78.0	73.0	69.0	65.0	62.0	60.0	60.0
15°	100.0	96.0	90.0	83.0	77.0	71.0	67.0	62.0	59.0	57.0	57.0
17.5°	105.0	101.0	92.0	84.0	77.0	70.0	65.0	60.0	57.0	55.0	54.0
20°	112.0	106.0	96.0	85.0	77.0	70.0	64.0	59.0	55.0	53.0	53.0
22.5°	120.0	113.0	100.0	87.0	78.0	70.0	64.0	58.0	54.0	52.0	52.0
25°	130.0	121.0	106.0	91.0	80.0	71.0	64.0	58.0	54.0	52.0	52.0
27.5°	141.0	131.0	112.0	95.0	82.0	72.0	64.0	58.0	54.0	52.0	52.0
30°	151.0	140.0	118.0	99.0	85.0	73.0	65.0	59.0	55.0	53.0	52.0
32.5°	162.0	148.0	124.0	103.0	87.0	75.0	66.0	60.0	55.0	53.0	53.0
35°	173.0	158.0	130.0	108.0	90.0	77.0	67.0	61.0	56.0	54.0	54.0
37.5°	185.0	169.0	137.0	112.0	93.0	79.0	69.0	62.0	57.0	55.0	55.0
40°	199.0	180.0	144.0	117.0	96.0	81.0	70.0	64.0	59.0	57.0	57.0
42.5°	212.1	190.0	151.0	121.0	99.0	83.0	72.0	65.0	61.0	59.0	59.0
45°	225.1	202.0	158.0	126.0	102.0	86.0	74.0	68.0	63.0	61.0	61.0
47.5°	240.1	213.1	166.0	130.0	105.0	88.0	76.0	70.0	65.0	64.0	63.0
50°	252.1	221.1	171.0	134.0	107.0	90.0	78.0	71.0	67.0	65.0	65.0
52.5°	263.1	229.1	175.0	136.0	108.0	91.0	80.0	73.0	69.0	67.0	67.0
55°	269.1	232.1	178.0	136.0	109.0	92.0	80.0	73.0	69.0	68.0	67.0
57.5°	269.1	232.1	176.0	134.0	107.0	90.0	79.0	72.0	69.0	67.0	67.0
60°	*265.1*	*229.1*	*171.0*	*130.0*	*104.0*	*87.0*	*77.0*	*70.0*	*67.0*	*66.0*	*66.0*
62.5°	259.1	224.1	167.0	125.0	100.0	83.0	74.0	67.0	65.0	65.0	64.0
65°	243.1	209.1	158.0	118.0	94.0	78.0	70.0	64.0	62.0	61.0	60.0
67.5°	226.1	195.0	144.0	110.0	86.0	73.0	65.0	60.0	57.0	57.0	56.0
70°	209.1	180.0	131.0	99.0	77.0	67.0	59.0	54.0	52.0	52.0	52.0
72.5°	186.0	161.0	116.0	87.0	68.0	59.0	53.0	48.0	47.0	47.0	46.0
75°	159.0	137.0	98.0	74.0	57.0	50.0	45.0	40.0	40.0	40.0	40.0
77.5°	130.0	111.0	78.0	59.0	45.0	40.0	37.0	33.0	33.0	33.0	33.0
80°	98.0	82.0	57.0	43.0	33.0	29.0	27.0	25.0	26.0	26.0	25.0
82.5°	64.0	54.0	36.0	27.0	21.0	19.0	19.0	17.0	18.0	18.0	18.0
85°	28.0	24.0	15.0	12.0	10.0	10.0	10.0	9.0	10.0	10.0	10.0
87.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	1.0	2.0	1.0
90°	2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8
92.5°	2.8	2.8	3.3	3.3	4.4	3.9	4.4	3.9	2.8	2.8	2.8
95°	3.3	3.3	3.9	3.9	6.6	6.6	6.1	5.0	3.9	3.3	3.3
97.5°	4.4	5.0	5.5	5.5	11.1	18.3	10.0	6.1	5.0	5.0	4.4
100°	7.7	7.7	10.5	14.4	28.2	39.3	29.3	13.8	7.7	7.7	7.2
102.5°	25.5	26.6	33.2	48.1	50.9	60.3	66.4	44.8	29.9	24.3	23.2
105°	60.9	60.9	65.8	76.4	84.1	91.3	93.0	74.7	63.1	58.7	59.2
107.5°	80.8	81.3	86.9	99.0	125.1	123.4	105.7	91.9	81.9	78.0	78.0
110°	99.0	100.2	107.3	122.3	141.6	142.8	117.9	99.6	91.3	88.0	88.0

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

Scaled Data Report

REPORT NUMBER: P832837
CATALOG NUMBER: TTN-D0-740-U-DL-UPL1

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	112.9	114.0	119.5	126.2	133.9	138.9	127.8	107.9	95.2	90.7	90.2
115°	109.0	107.9	110.1	114.5	120.6	126.2	121.7	110.7	98.5	93.5	93.5
117.5°	95.2	96.8	97.9	101.3	109.6	112.3	109.0	101.8	95.2	94.1	92.4
120°	84.7	85.8	86.3	89.1	94.6	95.7	94.1	90.2	86.9	85.8	85.8
122.5°	74.7	75.8	75.8	76.9	81.3	82.4	80.8	78.0	76.4	76.9	76.4
125°	65.8	66.4	66.4	67.0	69.2	68.6	69.2	67.5	66.4	67.0	67.0
127.5°	58.7	59.2	58.7	58.1	60.3	59.8	59.8	59.2	58.7	59.8	60.3
130°	53.1	52.6	52.0	51.5	52.6	51.5	52.6	52.6	52.6	53.7	53.7
132.5°	47.6	47.6	46.5	45.4	45.9	45.4	45.4	45.4	45.9	47.6	47.6
135°	42.6	42.6	42.1	40.9	41.5	40.9	41.5	41.5	40.9	42.6	42.6
137.5°	39.8	39.3	38.2	37.6	37.6	37.1	37.6	37.6	37.6	38.7	38.7
140°	36.0	36.0	35.4	34.9	34.9	34.9	34.3	34.9	34.9	35.4	35.4
142.5°	33.8	33.8	32.6	32.1	32.6	32.6	32.6	32.1	32.6	33.2	33.8
145°	31.5	31.0	31.0	30.4	30.4	31.0	30.4	30.4	30.4	31.0	31.0
147.5°	29.9	29.3	29.3	28.8	29.3	29.3	29.3	29.3	28.8	29.3	29.3
150°	28.2	28.2	27.7	27.7	27.7	27.7	28.2	28.2	27.7	28.2	28.8
152.5°	27.7	27.1	26.6	26.6	26.6	26.6	26.6	27.1	26.6	27.1	27.1
155°	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	25.5	26.0	26.0
157.5°	25.5	25.5	24.9	24.9	24.9	24.9	24.9	24.9	24.9	25.5	24.9
160°	24.9	24.3	24.3	24.3	23.8	23.8	23.8	24.3	24.3	24.3	24.3
162.5°	24.3	23.8	23.8	23.2	23.2	23.2	23.2	23.8	23.8	23.8	23.8
165°	23.2	23.8	23.2	22.7	22.7	22.7	22.7	23.2	23.2	23.2	23.8
167.5°	23.2	22.7	22.7	22.7	22.1	22.1	22.7	22.7	22.7	22.7	22.7
170°	22.7	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.7	22.7
172.5°	22.7	22.7	22.1	22.1	22.1	22.1	22.1	22.7	22.7	22.7	22.7
175°	22.1	22.7	22.7	22.7	22.1	22.1	22.1	22.7	22.7	22.7	22.7
177.5°	22.7	22.7	22.7	22.7	22.7	22.7	22.1	22.7	22.7	22.7	22.7
180°	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7	22.7

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

MCGRAW EDISON

Report Number: SP1-2411-284-2

Test Date: 11/20/2024

Luminaire Tested: TTN-D0-740-U-WQ

Data in this report applies to TT and TTN families of products

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

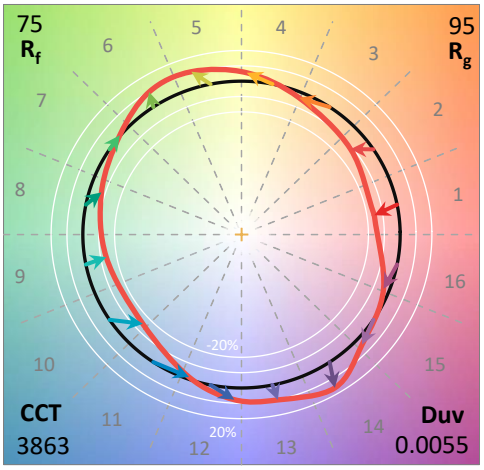
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2411-284-2
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	11/20/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	MCGRAW EDISON
Catalog Number:	**TTN-D0-740-U-WQ**
Description:	TOPTIER NANO LED PARKING GARAGE LUMINAIRE. 4000K, 70 CRI LEDS AND WIDE DISTRIBUTION

Spectral Parameters

CCT (K):	3863
CIE u':	0.2247
CIE v':	0.5111
Duv:	0.0055
CIE x:	0.3911
CIE y:	0.3954
CIE z:	0.2136
Peak Wavelength (nm):	448
Dominant Wavelength (nm):	577
Purity:	36.03443
Rf:	74.7
Rg:	95.4

CRI (Ra):	71.9				
R1:	69.4	R9:	-23.5		
R2:	76.9	R10:	45.4		
R3:	83.3	R11:	68.7		
R4:	72.7	R12:	38.7		
R5:	68.4	R13:	70.0		
R6:	67.5	R14:	90.3		
R7:	82.0	R15:	62.1		
R8:	55.3				



Test Conditions

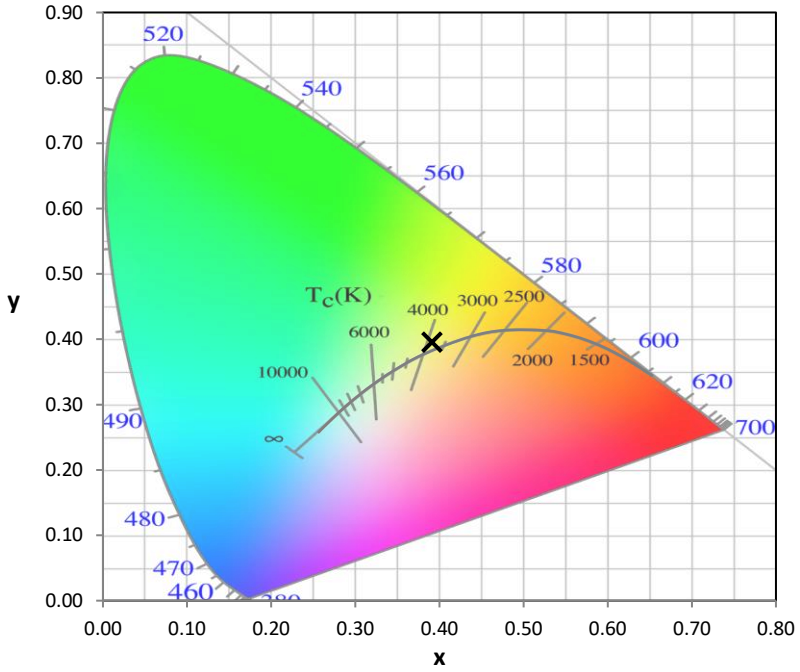
Stabilization Time:	37M
Operation Time:	1H 37M
Sphere Temperature (°C):	25.0

REPORT NUMBER: SP1-2411-284-2

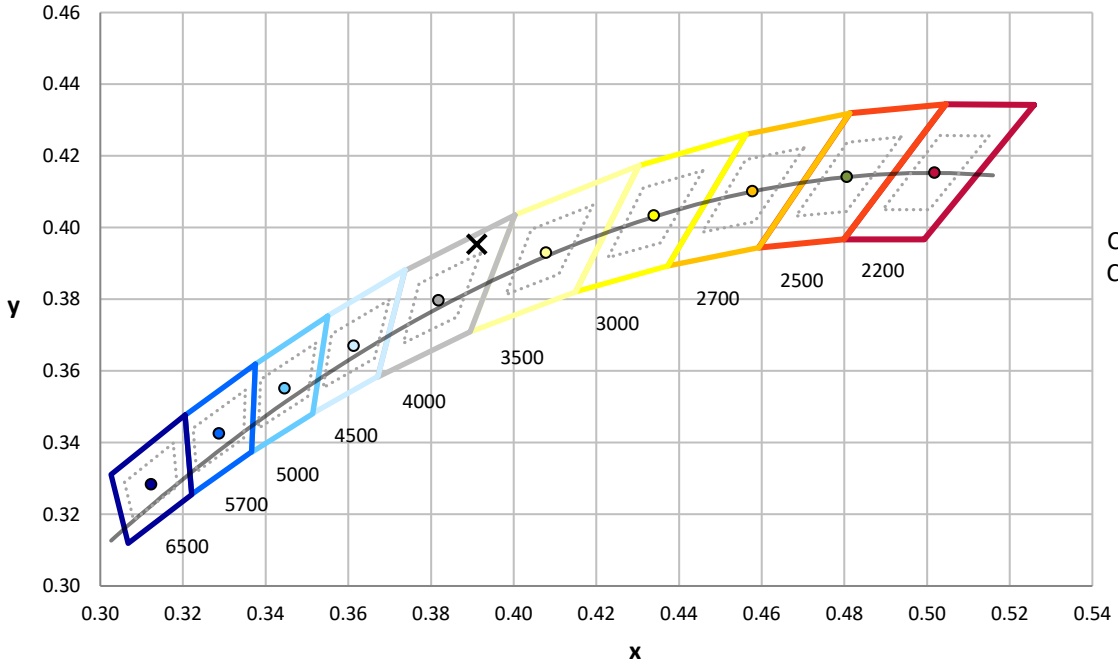
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/22/2024	10/22/2025
DC Power Source	IN0208	10/22/2024	10/22/2025
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2411-284-2

CIE 1931 Chromaticity Diagram



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

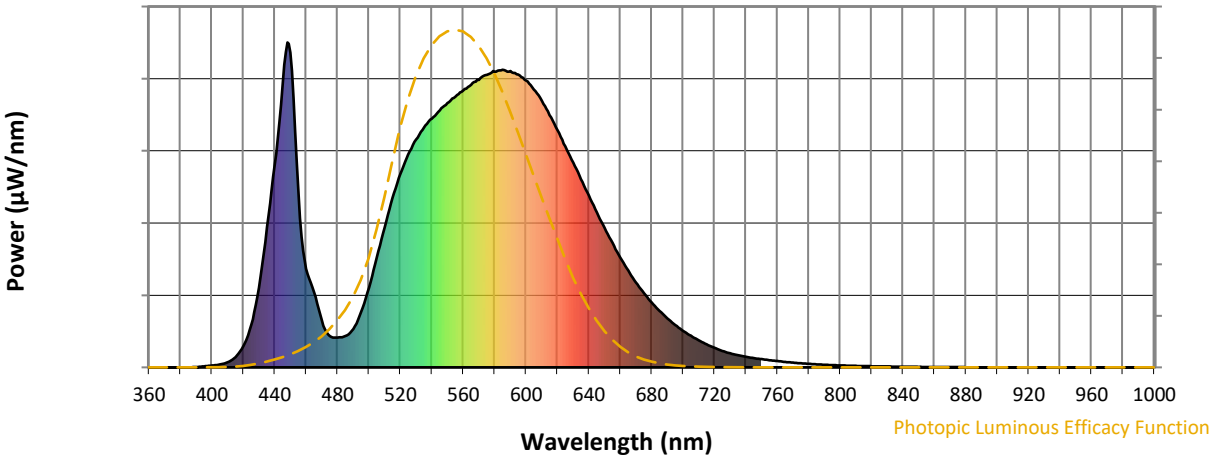


CCT = 3863K
CIE x = 0.3911
CIE y = 0.3954
Duv = 0.0055

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2411-284-2

Photopic Flux vs. Wavelength

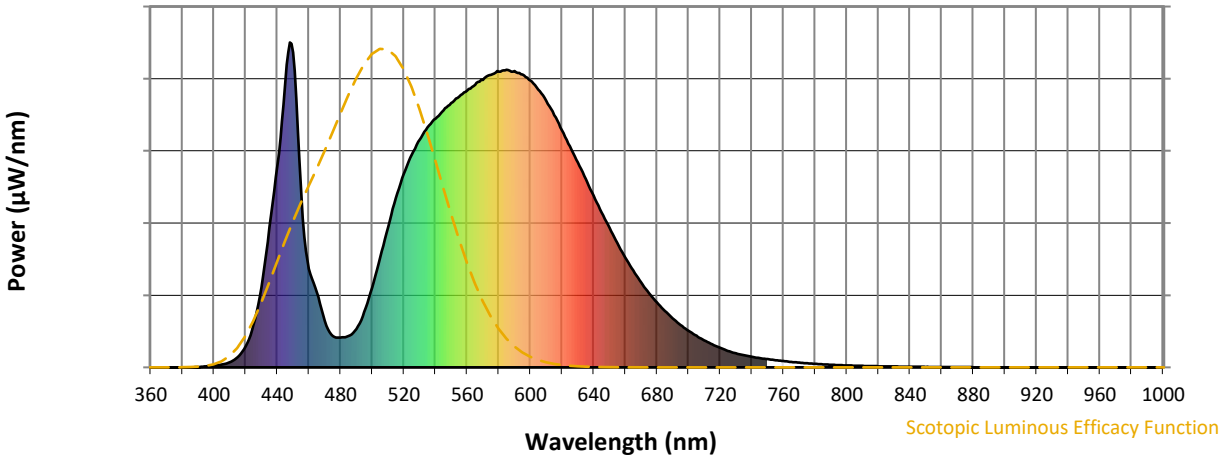


Photopic Lumens: NR

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	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-2

Scotopic Flux vs. Wavelength

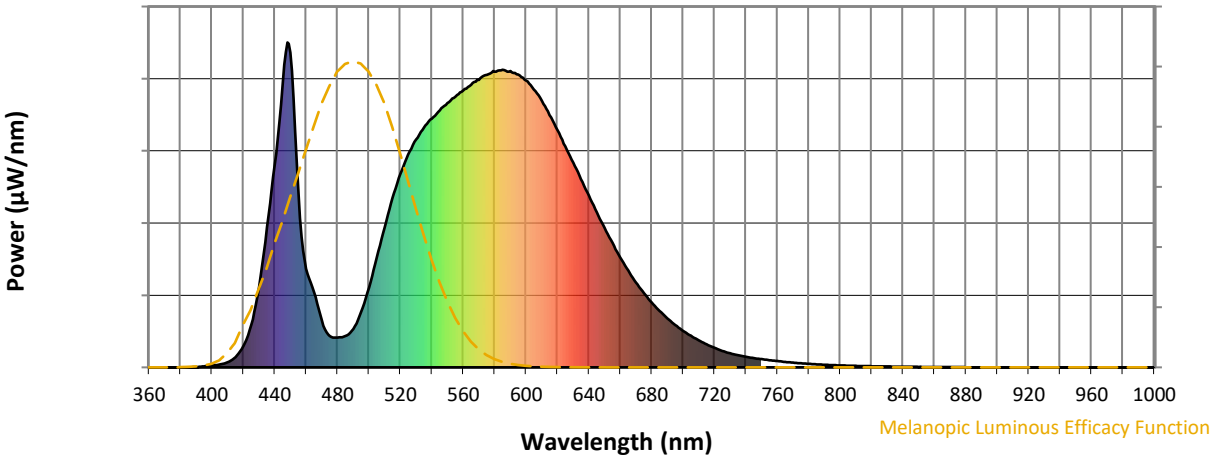


Scotopic Lumens: NR **S/P: 1.45**

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	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

REPORT NUMBER: SP1-2411-284-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.72**

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	118	NR	620	730	NR	750	25	NR	880	1	NR
365	0	NR	495	170	NR	625	680	NR	755	22	NR	885	0	NR
370	0	NR	500	245	NR	630	630	NR	760	19	NR	890	0	NR
375	0	NR	505	338	NR	635	579	NR	765	17	NR	895	0	NR
380	0	NR	510	431	NR	640	529	NR	770	14	NR	900	0	NR
385	0	NR	515	521	NR	645	477	NR	775	13	NR	905	0	NR
390	1	NR	520	596	NR	650	429	NR	780	11	NR	910	0	NR
395	3	NR	525	655	NR	655	383	NR	785	9	NR	915	0	NR
400	6	NR	530	701	NR	660	338	NR	790	8	NR	920	0	NR
405	9	NR	535	739	NR	665	298	NR	795	7	NR	925	0	NR
410	16	NR	540	766	NR	670	261	NR	800	6	NR	930	0	NR
415	32	NR	545	791	NR	675	228	NR	805	5	NR	935	0	NR
420	65	NR	550	813	NR	680	200	NR	810	5	NR	940	0	NR
425	131	NR	555	833	NR	685	173	NR	815	4	NR	945	0	NR
430	245	NR	560	852	NR	690	151	NR	820	3	NR	950	0	NR
435	432	NR	565	870	NR	695	130	NR	825	3	NR	955	0	NR
440	622	NR	570	885	NR	700	112	NR	830	3	NR	960	0	NR
445	870	NR	575	900	NR	705	97	NR	835	2	NR	965	0	NR
450	969	NR	580	911	NR	710	83	NR	840	2	NR	970	0	NR
455	544	NR	585	916	NR	715	71	NR	845	2	NR	975	0	NR
460	304	NR	590	912	NR	720	60	NR	850	1	NR	980	0	NR
465	231	NR	595	901	NR	725	51	NR	855	1	NR	985	0	NR
470	142	NR	600	882	NR	730	43	NR	860	1	NR	990	0	NR
475	96	NR	605	855	NR	735	37	NR	865	1	NR	995	0	NR
480	92	NR	610	820	NR	740	32	NR	870	1	NR	1000	0	NR
485	96	NR	615	776	NR	745	29	NR	875	1	NR			

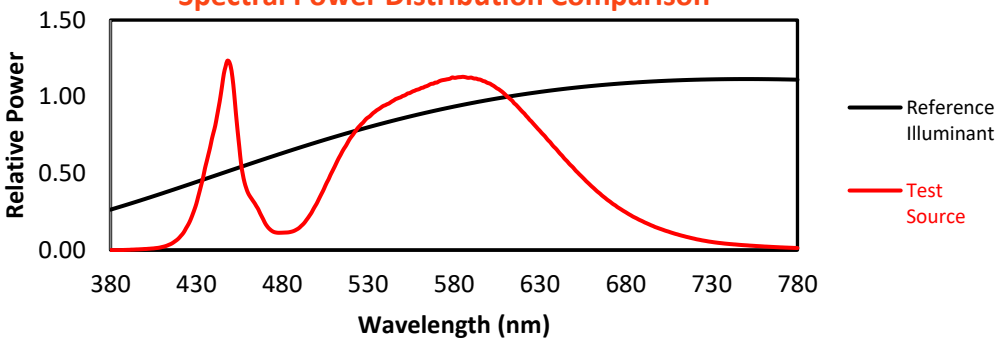
REPORT NUMBER: SP1-2411-284-2

TM-30-18

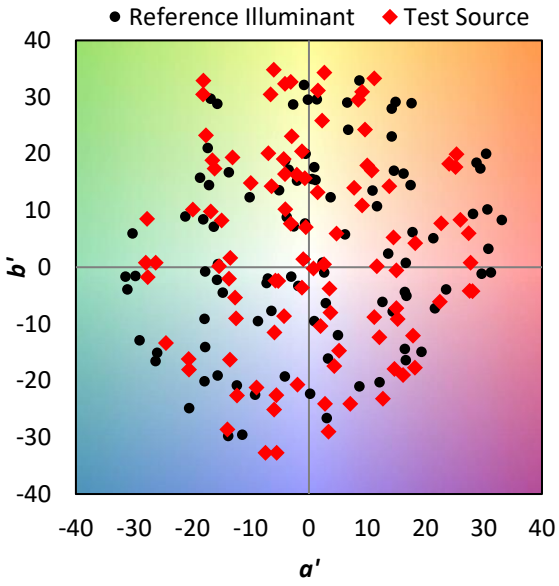
Summary

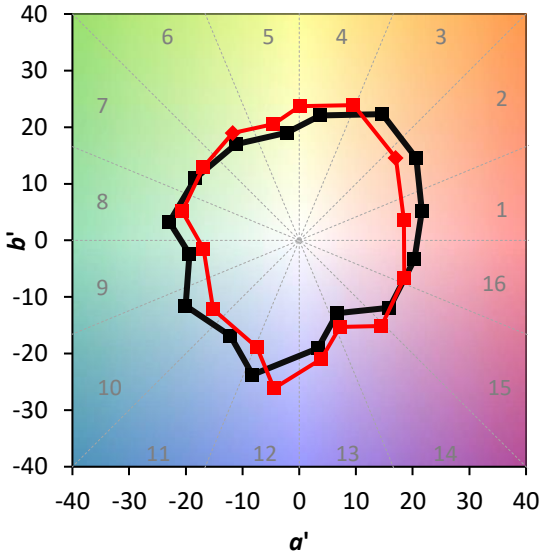
R_f = 74.7
R_g = 95.4
CIE R_a = 71.9
R_9 = -23.5

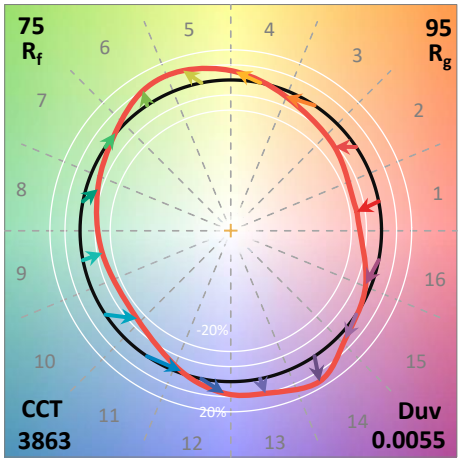
Spectral Power Distribution Comparison

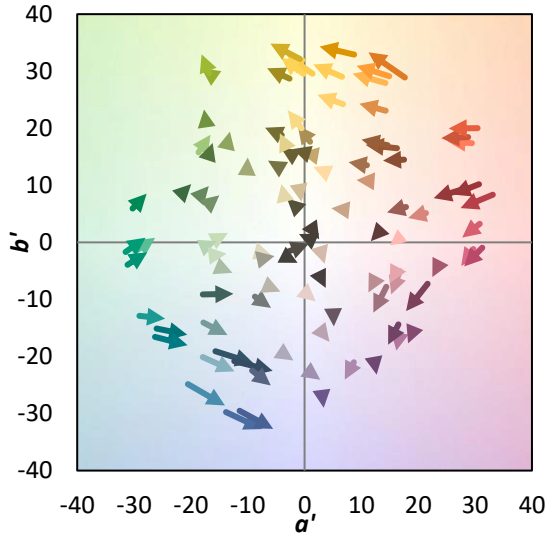


Color Vector Graphics







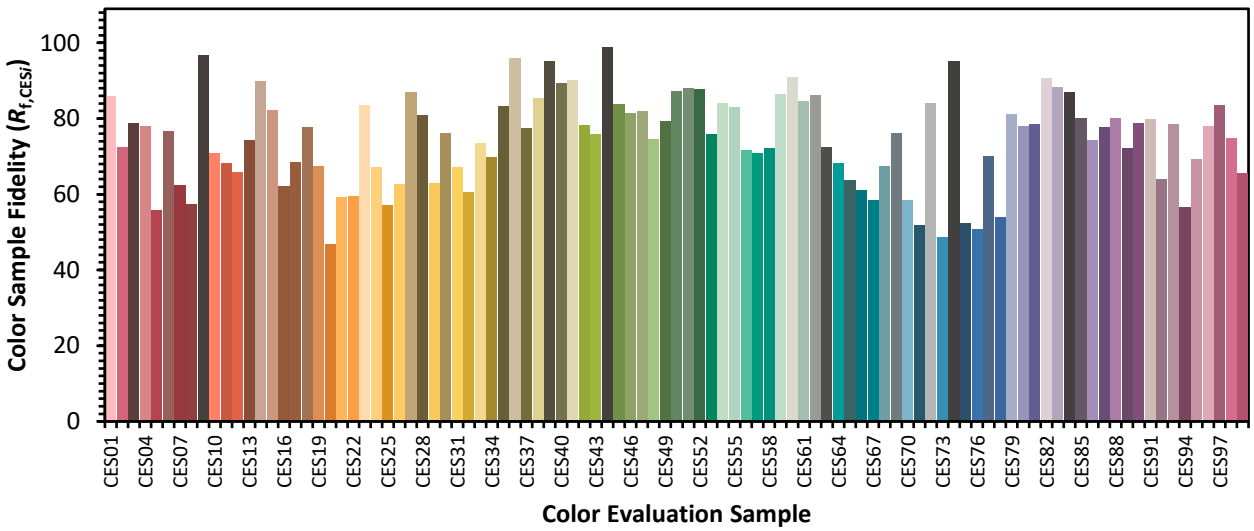


REPORT NUMBER: SP1-2411-284-2

TM-30-18

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

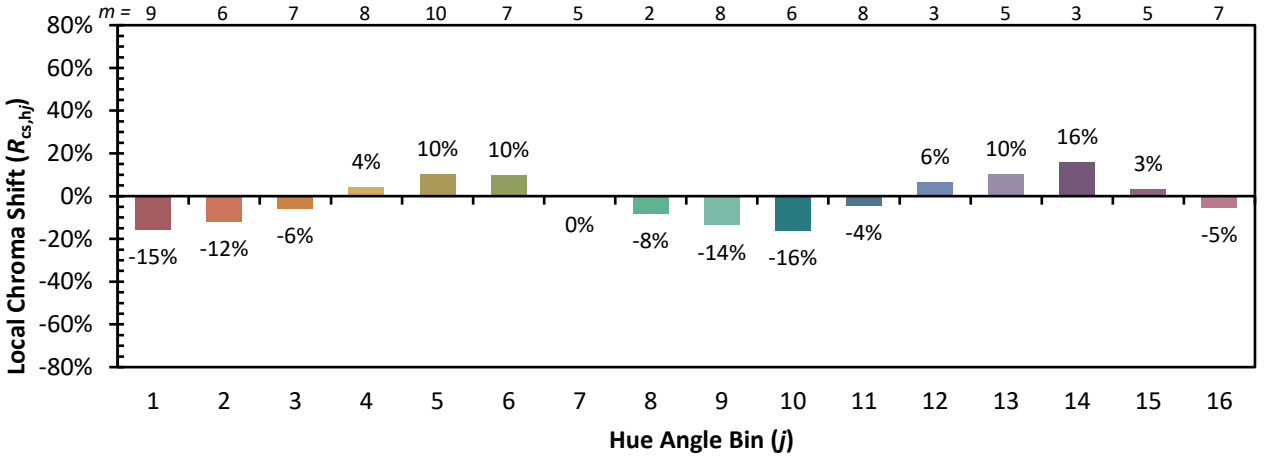
CES01 = 85	CES26 = 63	CES51 = 88	CES76 = 51
CES02 = 61	CES27 = 87	CES52 = 88	CES77 = 70
CES03 = 30	CES28 = 81	CES53 = 76	CES78 = 54
CES04 = 70	CES29 = 63	CES54 = 84	CES79 = 81
CES05 = 47	CES30 = 76	CES55 = 83	CES80 = 78
CES06 = 50	CES31 = 67	CES56 = 72	CES81 = 79
CES07 = 40	CES32 = 61	CES57 = 71	CES82 = 91
CES08 = 39	CES33 = 73	CES58 = 72	CES83 = 88
CES09 = 29	CES34 = 70	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 83	CES60 = 91	CES85 = 80
CES11 = 57	CES36 = 96	CES61 = 85	CES86 = 74
CES12 = 63	CES37 = 77	CES62 = 86	CES87 = 78
CES13 = 42	CES38 = 85	CES63 = 72	CES88 = 80
CES14 = 74	CES39 = 95	CES64 = 68	CES89 = 72
CES15 = 71	CES40 = 89	CES65 = 64	CES90 = 79
CES16 = 46	CES41 = 90	CES66 = 61	CES91 = 80
CES17 = 49	CES42 = 78	CES67 = 58	CES92 = 64
CES18 = 56	CES43 = 76	CES68 = 67	CES93 = 78
CES19 = 71	CES44 = 99	CES69 = 76	CES94 = 57
CES20 = 65	CES45 = 84	CES70 = 58	CES95 = 69
CES21 = 86	CES46 = 81	CES71 = 52	CES96 = 78
CES22 = 78	CES47 = 82	CES72 = 84	CES97 = 84
CES23 = 92	CES48 = 75	CES73 = 49	CES98 = 75
CES24 = 91	CES49 = 79	CES74 = 95	CES99 = 66
CES25 = 72	CES50 = 87	CES75 = 52	

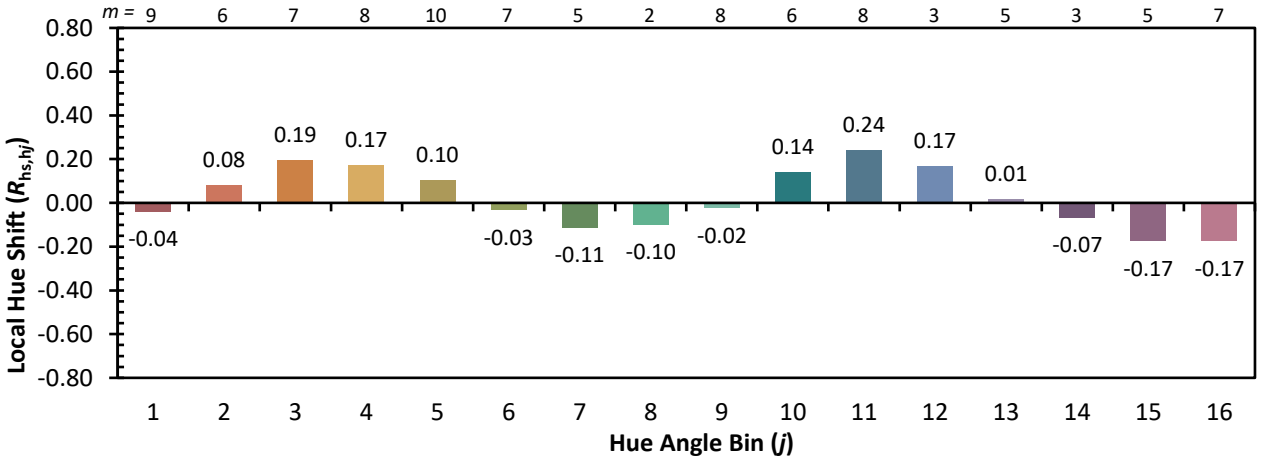


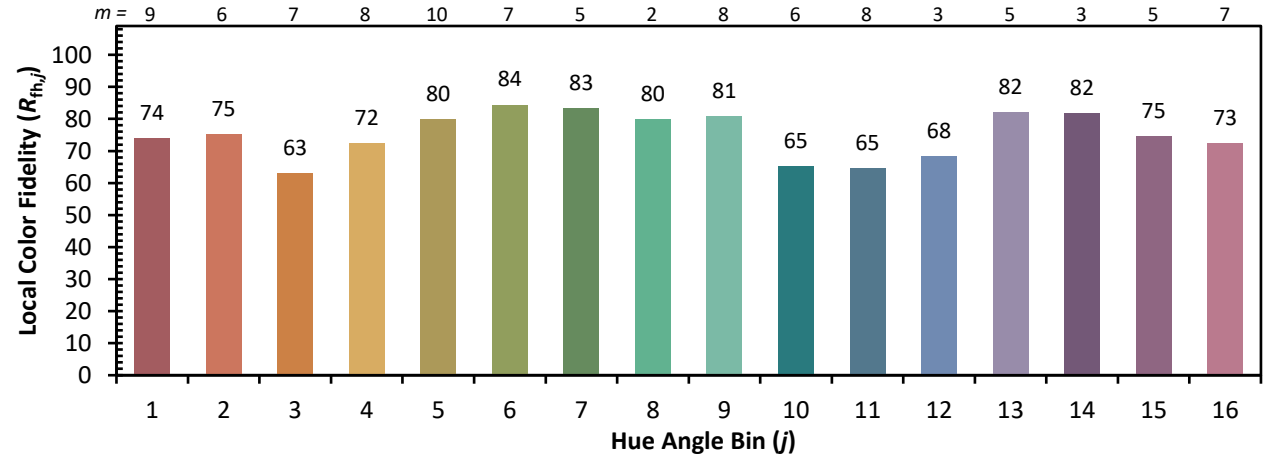
REPORT NUMBER: SP1-2411-284-2

TM-30-18

Color Rendition by Hue-Angle Bin







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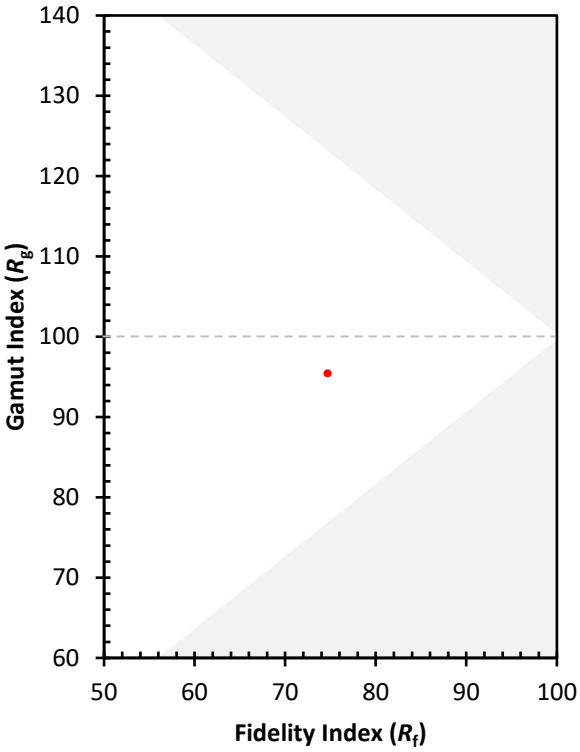
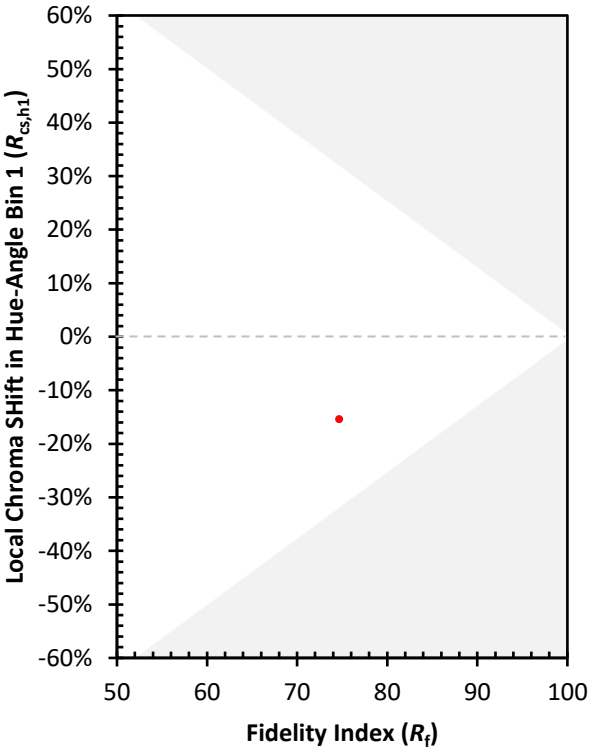
Measure Comparisons





(END OF REPORT)