

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: McGRAW-EDISON

Report Number: P436806

Luminaire Tested: **TT-D3-740-U-RW-HSS**

Issue Date: 12/2/2020

Test Information

Test Method: LM-79-08
Report Number: P436806
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-5)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D3-740-U-RW-HSS
Description: TOPTIER LED PARKING GARAGE LUMINAIRE
4000K, 70 CRI LEDS AND RECTANGULAR DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4013.1 lumens
Efficiency: N/A
Efficacy: 85.0 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U2 - G3

Input Watts (W): 47.2
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: 28.75 FT

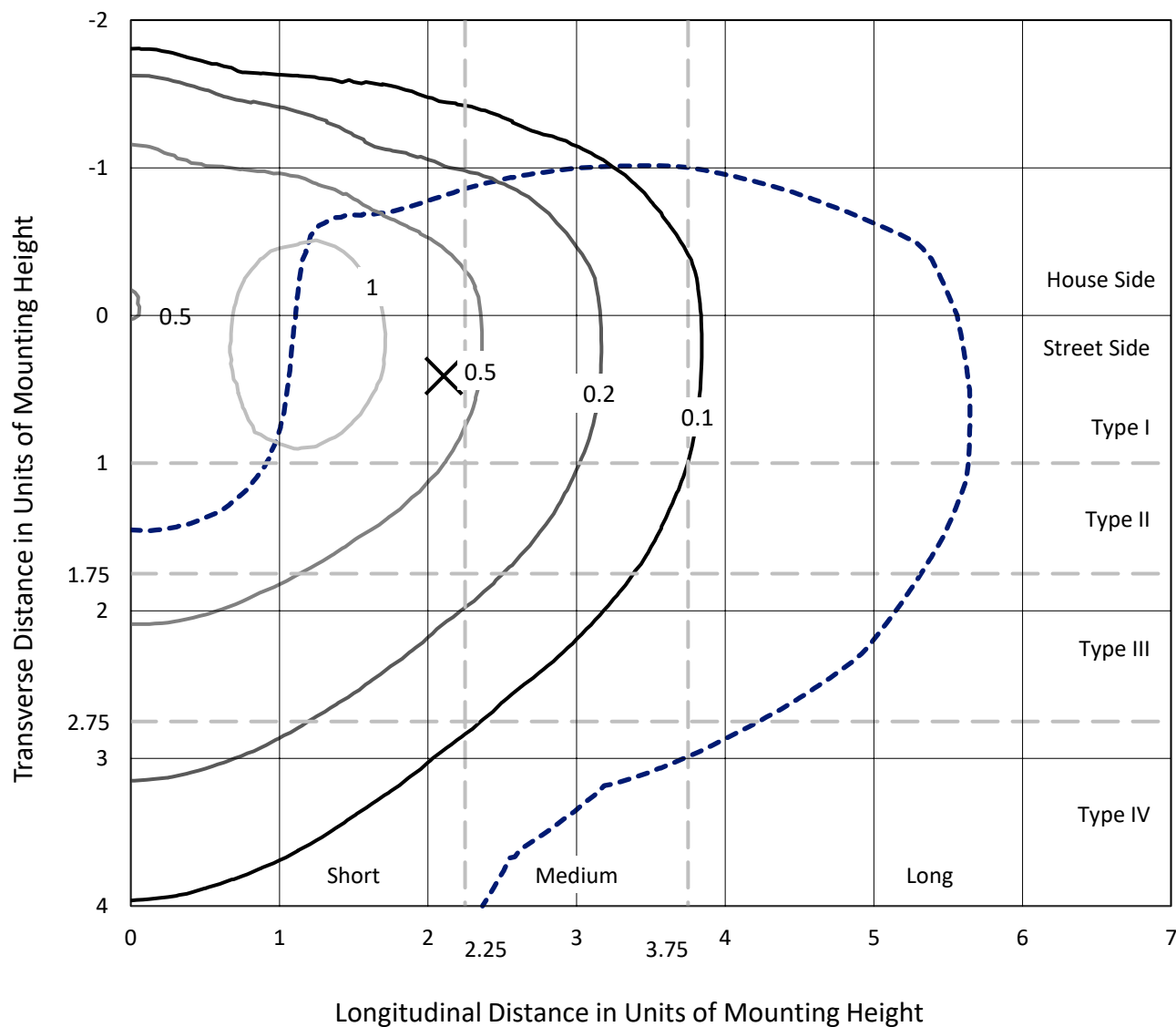
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CATALOG NUMBER: TT-D3-740-U-RW-HSS

Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

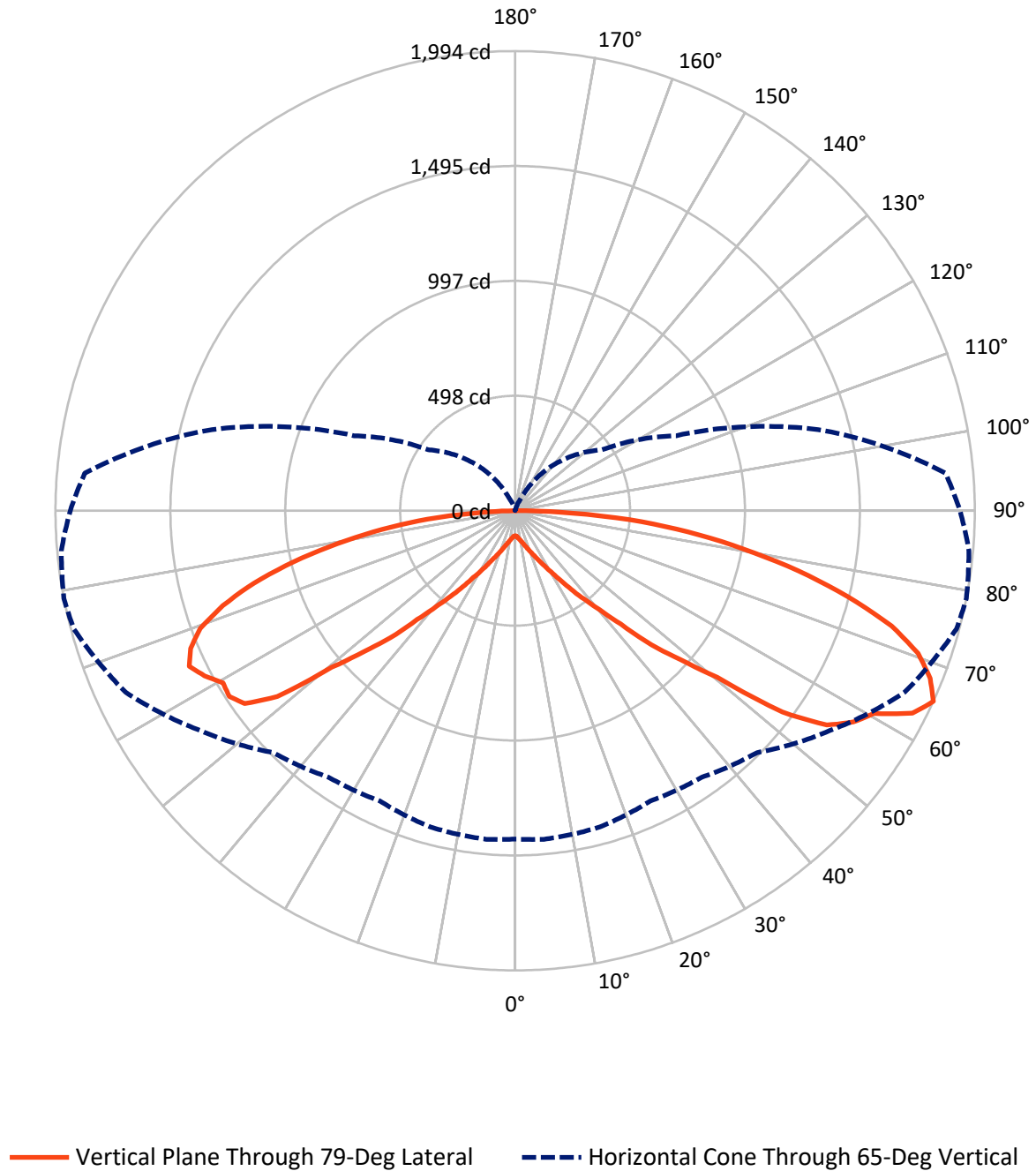


Based on 15 foot mounting height. Maximum calculated value = 1.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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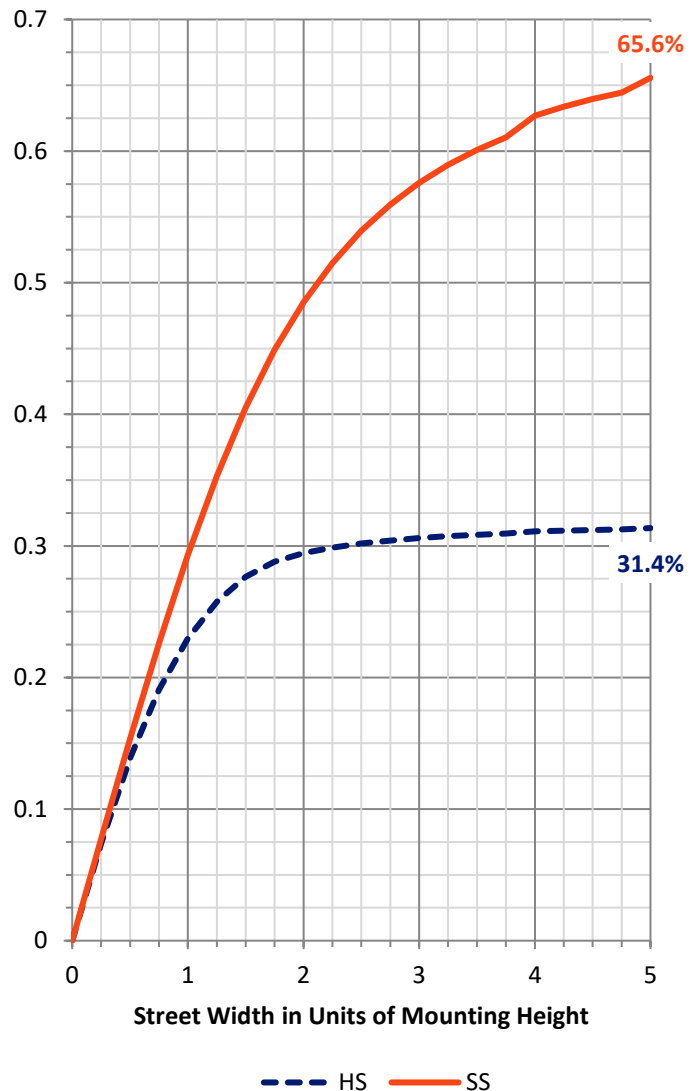
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1267.3	1.6	1268.9
	% Fixture	31.6	0.0	31.6
Street Side	Lumens	2726.5	17.7	2744.2
	% Fixture	67.9	0.4	68.4
Total	Lumens	3993.8	19.3	4013.1
	% Fixture	99.5	0.5	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.4	0.3
10°-20°	43.2	1.1
20°-30°	99.7	2.5
30°-40°	213.6	5.3
40°-50°	457.5	11.4
50°-60°	864.1	21.5
60°-70°	1073.9	26.8
70°-80°	919.3	22.9
80°-90°	311.0	7.7
90°-100°	13.4	0.3
100°-110°	3.9	0.1
110°-120°	0.8	0.0
120°-130°	0.5	0.0
130°-140°	0.3	0.0
140°-150°	0.2	0.0
150°-160°	0.1	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	3993.8	99.5
0°-180°	4013.1	100.0



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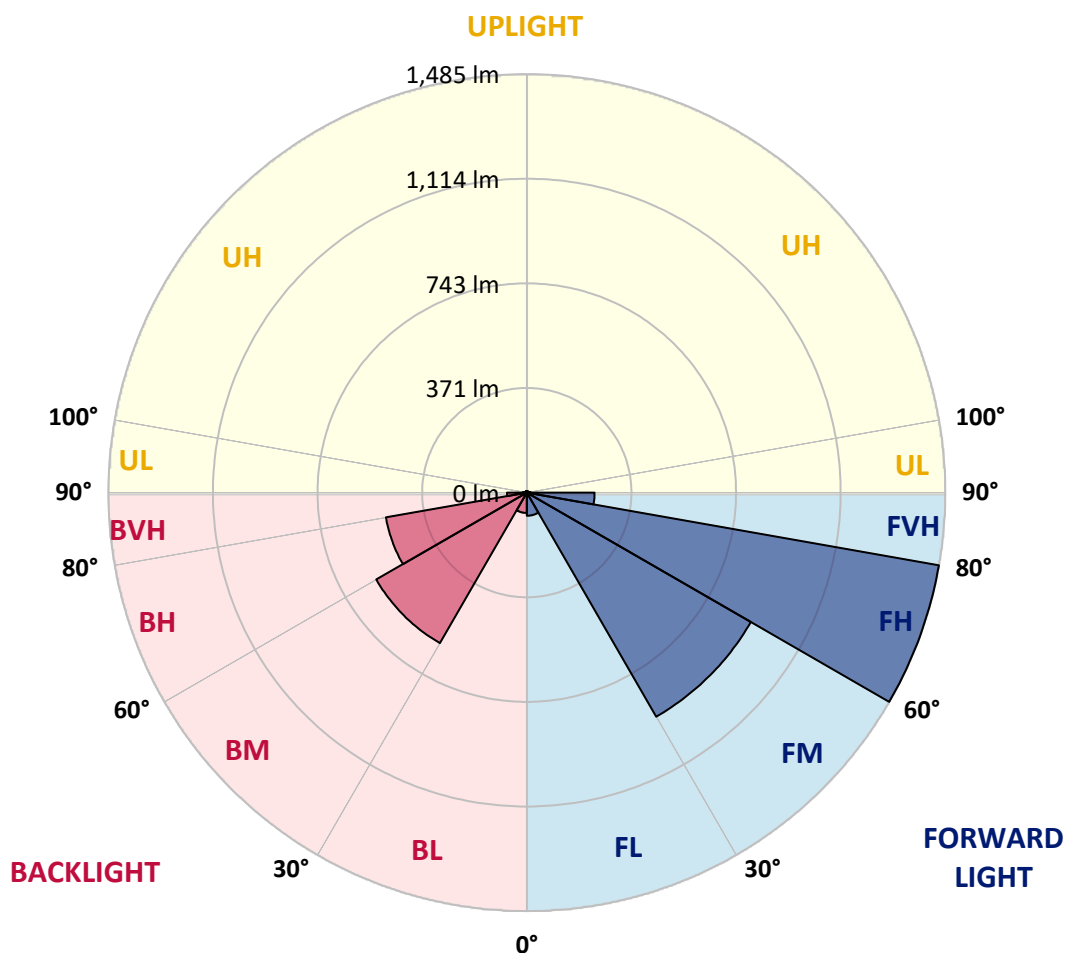
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	82.1	2.0			
FM	(30°-60°)	918.4	22.9			
FH	(60°-80°)	1485.5	37.0			G1/1800
FVH	(80°-90°)	240.6	6.0			G3/500
BL	(0°-30°)	72.3	1.8	B0/110		
BM	(30°-60°)	616.9	15.4	B1/1000		
BH	(60°-80°)	507.7	12.7	B2/1000		G2/1000
BVH	(80°-90°)	70.4	1.8			G1/100
UL	(90°-100°)	13.4	0.3		U2/50	
UH	(100°-180°)	5.9	0.1		U1/10	

BUG Rating: B2-U2-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0
2.5°	115.0	115.0	115.0	114.0	114.0	114.0	113.0	112.0	111.0	111.0	111.0
5°	121.0	121.0	121.0	121.0	120.0	119.0	118.0	117.0	116.0	116.0	115.0
7.5°	129.0	128.0	129.0	128.0	128.0	127.0	126.0	125.0	123.0	123.0	122.0
10°	137.0	137.0	137.0	137.0	137.0	136.0	135.0	134.0	133.0	132.0	131.0
12.5°	147.0	147.0	147.0	146.0	147.0	146.0	145.0	145.0	144.0	142.0	142.0
15°	157.0	157.0	157.0	157.0	158.0	158.0	158.0	157.0	157.0	156.0	155.0
17.5°	169.0	168.0	169.0	169.0	170.0	171.0	172.0	173.0	173.0	172.0	172.0
20°	182.0	181.0	182.0	182.0	184.0	186.0	189.0	191.0	192.0	190.0	190.0
22.5°	196.0	195.0	197.0	197.0	200.0	203.0	208.0	210.0	213.0	212.0	212.0
25°	213.0	212.0	213.0	214.0	218.0	223.0	229.0	234.0	237.0	237.0	238.0
27.5°	232.0	232.0	233.0	234.0	238.0	246.0	255.0	264.0	271.0	270.0	271.0
30°	258.0	258.0	260.0	261.0	266.0	275.0	287.0	299.0	309.0	309.0	311.0
32.5°	287.0	286.0	289.0	290.0	295.0	307.0	324.0	343.0	356.0	356.0	358.0
35°	322.0	321.0	324.0	324.0	330.0	347.0	369.0	395.0	417.0	418.0	421.0
37.5°	366.0	364.0	364.0	367.0	374.0	396.0	426.0	462.0	485.0	487.0	492.0
40°	418.0	417.0	419.0	418.0	427.0	454.0	492.0	534.0	561.0	566.0	572.0
42.5°	482.0	484.0	481.0	481.0	492.0	523.0	568.0	617.0	666.0	672.0	675.0
45°	560.0	564.0	560.0	559.0	569.0	605.0	667.0	753.0	810.0	830.0	836.0
47.5°	654.0	656.0	651.0	649.0	660.0	706.0	786.0	882.0	949.0	964.0	980.0
50°	759.0	756.0	752.0	749.0	770.0	827.0	920.0	1019.0	1134.0	1136.0	1142.0
52.5°	867.0	858.0	859.0	858.0	887.0	949.0	1073.0	1241.0	1416.0	1451.9	1455.9
55°	975.0	964.0	963.0	973.0	1014.0	1103.0	1259.0	1476.9	1618.9	1640.9	1637.9
57.5°	1083.0	1078.0	1076.0	1085.0	1145.0	1251.0	1427.0	1610.9	1731.9	1729.9	1708.9
60°	1195.0	1199.0	1192.0	1209.0	1271.0	1377.0	1504.9	1683.9	1795.9	1786.9	1765.9
62.5°	1310.0	1320.0	1313.0	1315.0	1355.0	1432.9	1558.9	1766.9	1921.9	1934.9	1910.9
65°	1424.0	1431.0	1420.0	1389.0	1411.0	1483.9	1663.9	1863.9	1981.9	1993.9	1975.9
67.5°	1519.9	1526.9	1488.9	1439.9	1442.9	1495.9	1653.9	1844.9	1949.9	1941.9	1912.9
70°	1601.9	1588.9	1526.9	1442.9	1408.0	1432.9	1581.9	1750.9	1857.9	1853.9	1819.9
72.5°	1628.9	1611.9	1506.9	1377.0	1308.0	1317.0	1461.9	1612.9	1699.9	1706.9	1665.9
75°	1585.9	1556.9	1413.0	1250.0	1161.0	1167.0	1291.0	1430.0	1499.9	1491.9	1459.9
77.5°	1431.0	1402.0	1246.0	1072.0	985.0	994.0	1092.0	1201.0	1259.0	1256.0	1234.0
80°	1188.0	1162.0	1025.0	863.0	784.0	789.0	864.0	950.0	995.0	1005.0	993.0
82.5°	878.0	860.0	763.0	632.0	568.0	567.0	624.0	690.0	734.0	755.0	747.0
85°	543.0	534.0	480.0	395.0	350.0	349.0	383.0	432.0	472.0	500.0	482.0
87.5°	216.0	213.0	197.0	159.0	139.0	132.0	124.0	155.0	158.0	187.0	186.0
90°	53.0	52.0	51.0	48.0	43.0	37.0	30.0	22.0	14.0	11.0	6.0
92.5°	47.0	47.0	46.0	43.0	39.0	33.0	27.0	20.0	13.0	10.0	5.0
95°	38.0	38.0	37.0	35.0	31.0	27.0	21.0	16.0	10.0	8.0	4.0
97.5°	29.0	28.0	28.0	26.0	24.0	20.0	16.0	12.0	8.0	6.0	3.0
100°	21.0	21.0	20.0	19.0	17.0	15.0	12.0	9.0	5.0	4.0	2.0
102.5°	15.0	14.0	14.0	14.0	12.0	10.0	8.0	6.0	4.0	3.0	1.0
105°	10.0	9.0	9.0	9.0	8.0	7.0	5.0	4.0	2.0	2.0	1.0
107.5°	6.0	6.0	6.0	6.0	5.0	4.0	3.0	2.0	1.0	1.0	1.0
110°	3.0	3.0	3.0	4.0	3.0	3.0	2.0	1.0	1.0	1.0	1.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
112.5°	2.0	2.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0
115°	1.0	1.0	1.0	2.0	2.0	1.0	1.0	0.0	0.0	1.0	1.0
117.5°	0.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
120°	0.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
122.5°	0.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
125°	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
127.5°	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
130°	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
132.5°	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	1.0
135°	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
180°	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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0	109.0
2.5°	110.0	110.0	110.0	109.0	109.0	109.0	108.0	108.0	107.0	107.0	107.0
5°	114.0	114.0	113.0	113.0	112.0	111.0	111.0	110.0	110.0	109.0	109.0
7.5°	121.0	121.0	120.0	119.0	117.0	116.0	115.0	114.0	114.0	113.0	113.0
10°	130.0	130.0	128.0	126.0	124.0	122.0	121.0	119.0	118.0	118.0	118.0
12.5°	141.0	140.0	138.0	135.0	133.0	130.0	128.0	126.0	124.0	124.0	124.0
15°	154.0	154.0	150.0	147.0	143.0	139.0	136.0	133.0	131.0	130.0	130.0
17.5°	170.0	170.0	165.0	160.0	155.0	150.0	146.0	142.0	140.0	139.0	139.0
20°	188.0	188.0	183.0	177.0	170.0	163.0	157.0	152.0	149.0	148.0	148.0
22.5°	210.0	210.0	203.0	195.0	186.0	176.0	168.0	162.0	159.0	157.0	157.0
25°	235.0	233.0	226.0	216.0	203.0	191.0	180.0	174.0	170.0	167.0	168.0
27.5°	269.0	266.0	257.0	240.0	224.0	208.0	195.0	187.0	182.0	180.0	181.0
30°	308.0	305.0	292.0	273.0	249.0	228.0	212.0	203.0	198.0	195.0	196.0
32.5°	355.0	351.0	335.0	309.0	281.0	251.0	231.0	220.0	215.0	212.0	211.0
35°	417.0	412.0	392.0	356.0	317.0	281.0	253.0	239.0	234.0	231.0	232.0
37.5°	487.0	480.0	453.0	409.0	360.0	314.0	282.0	264.0	258.0	253.0	253.0
40°	567.0	559.0	524.0	466.0	407.0	350.0	309.0	289.0	282.0	282.0	282.0
42.5°	667.0	659.0	619.0	534.0	456.0	389.0	340.0	317.0	310.0	312.0	312.0
45°	822.0	811.0	747.0	635.0	520.0	429.0	372.0	346.0	341.0	346.0	346.0
47.5°	964.0	950.0	856.0	729.0	583.0	469.0	404.0	374.0	372.0	383.0	383.0
50°	1123.0	1105.0	1006.0	805.0	634.0	513.0	433.0	397.0	398.0	414.0	419.0
52.5°	1431.0	1412.0	1241.0	943.0	689.0	529.0	445.0	402.0	402.0	420.0	427.0
55°	1613.9	1574.9	1352.0	1033.0	712.0	548.0	440.0	382.0	380.0	400.0	406.0
57.5°	1673.9	1633.9	1375.0	1007.0	697.0	524.0	411.0	328.0	324.0	350.0	348.0
60°	1722.9	1669.9	1338.0	920.0	612.0	473.0	355.0	244.0	227.0	250.0	249.0
62.5°	1860.9	1803.9	1340.0	818.0	512.0	395.0	267.0	137.0	102.0	120.0	112.0
65°	1929.9	1873.9	1361.0	770.0	461.0	327.0	191.0	56.0	4.0	4.0	2.0
67.5°	1870.9	1820.9	1334.0	758.0	454.0	325.0	194.0	55.0	0.0	0.0	0.0
70°	1784.9	1736.9	1272.0	716.0	431.0	313.0	190.0	55.0	0.0	0.0	0.0
72.5°	1633.9	1584.9	1165.0	656.0	396.0	287.0	176.0	52.0	0.0	0.0	0.0
75°	1434.9	1398.0	1029.0	578.0	349.0	253.0	156.0	46.0	0.0	0.0	0.0
77.5°	1215.0	1171.0	863.0	481.0	292.0	210.0	132.0	38.0	0.0	0.0	0.0
80°	975.0	943.0	680.0	377.0	226.0	164.0	103.0	29.0	0.0	0.0	0.0
82.5°	725.0	698.0	503.0	270.0	161.0	114.0	71.0	19.0	0.0	0.0	0.0
85°	476.0	469.0	323.0	164.0	96.0	63.0	38.0	9.0	0.0	0.0	0.0
87.5°	172.0	178.0	118.0	47.0	26.0	11.0	5.0	1.0	0.0	0.0	0.0
90°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
92.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
95°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
97.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
100°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
102.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
105°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
107.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
110°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: TT-D3-740-U-RW-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
115°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
117.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
120°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
122.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
125°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
127.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
130°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
132.5°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
135°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-740-U-WQ

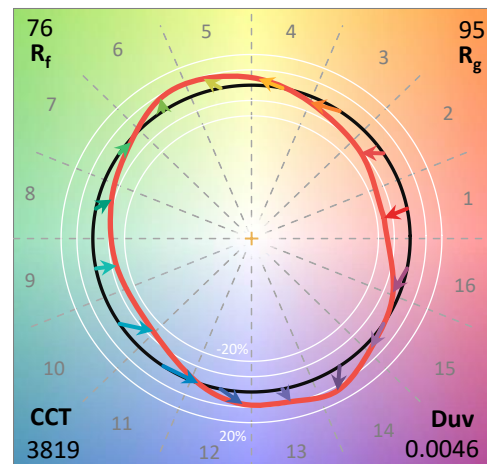
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-5
 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-30-740-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 3819
 CIE u' : 0.2261
 CIE v' : 0.5108
 Duv: 0.0046
 CIE x: 0.3926
 CIE y: 0.3942
 CIE z: 0.2132
 Peak Wavelength (nm): 450
 Dominant Wavelength (nm): 577
 Purity: 36.15483
 R_f: 75.6
 R_g: 94.8

CRI (Ra): 72.9
 R1: 70.1
 R2: 78.4
 R3: 85.0
 R4: 72.9
 R5: 69.1
 R6: 69.2
 R7: 82.8
 R8: 55.4
 R9: -21.5
 R10: 48.5
 R11: 68.4
 R12: 39.0
 R13: 71.1
 R14: 91.3
 R15: 63.2



Test Conditions

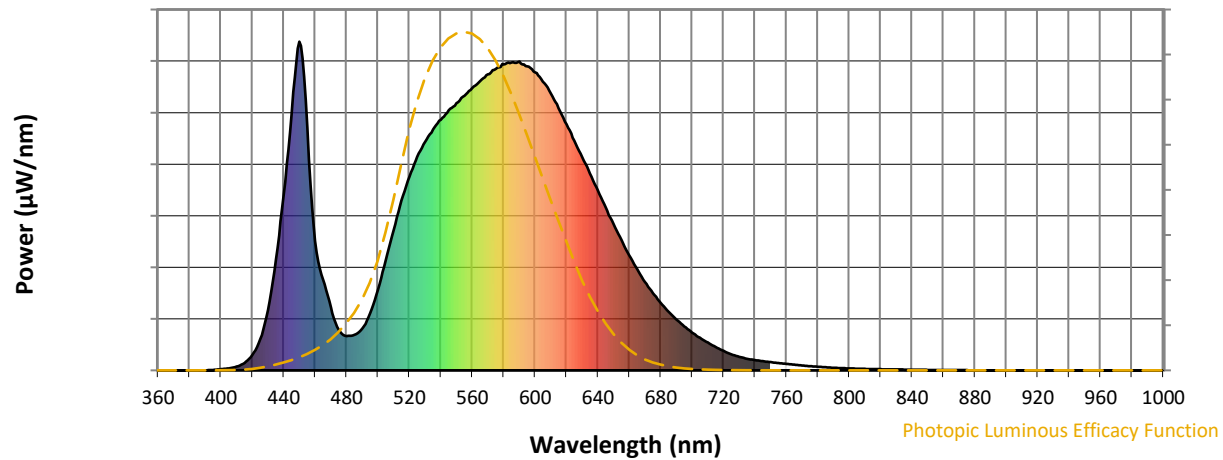
Stabilization Time: 30M
 Operation Time: 1H 30M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-5

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

REPORT NUMBER: SP1-2407-176-5

Photopic Flux vs. Wavelength

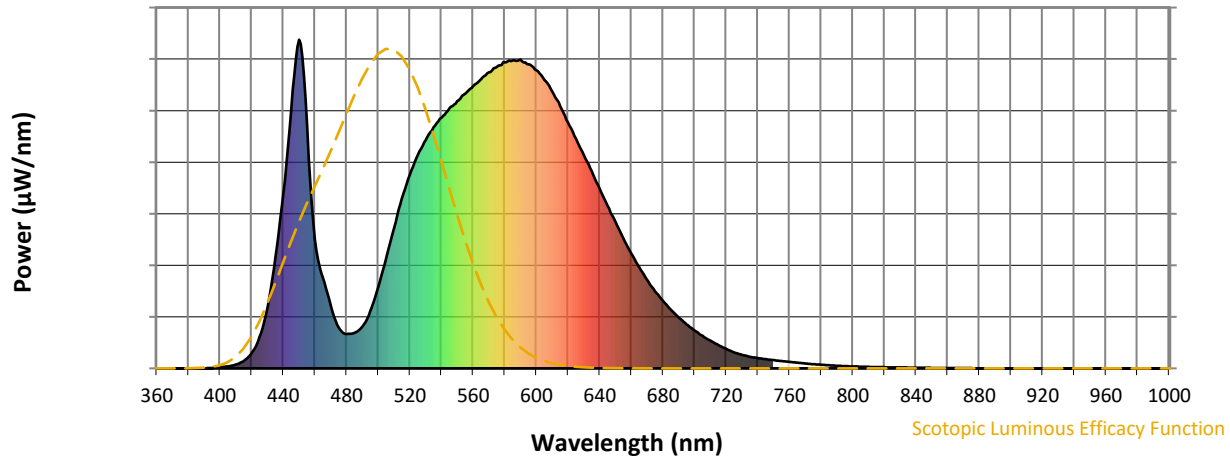


Photopic Lumens: NR

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength



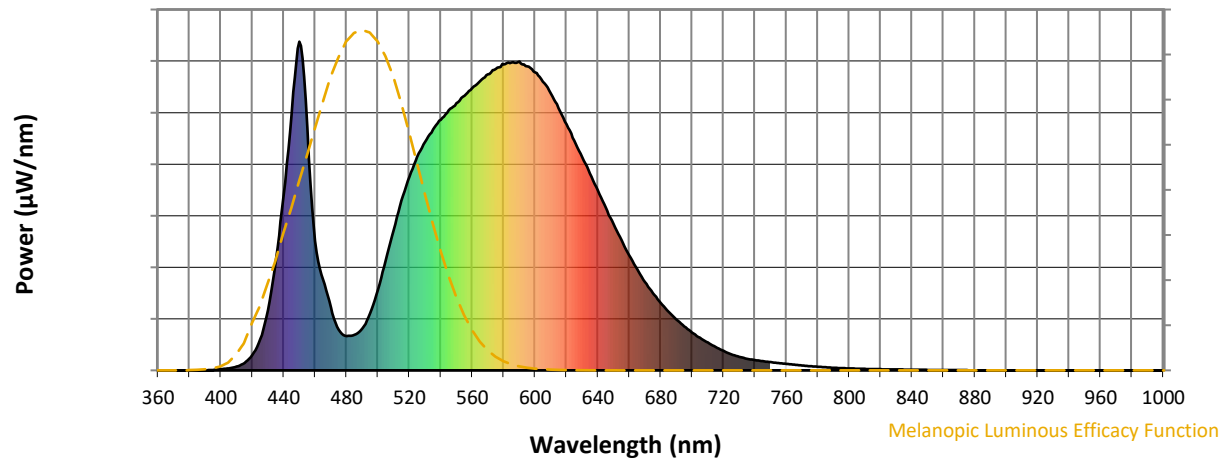
Scotopic Lumens: NR

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.76

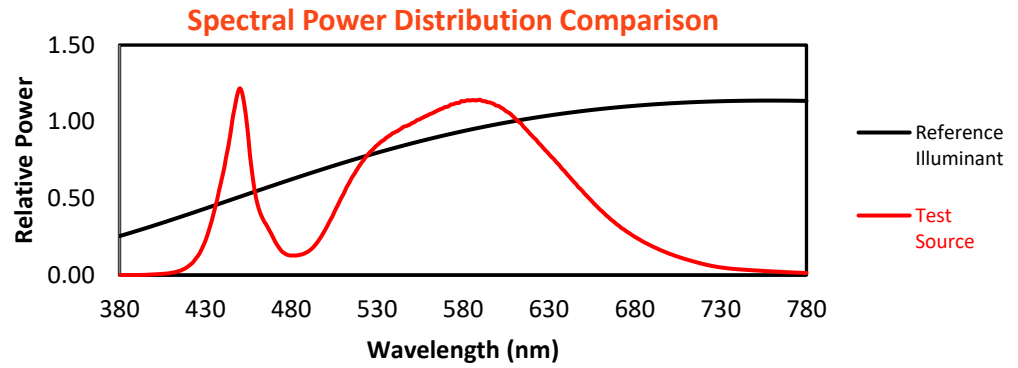
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

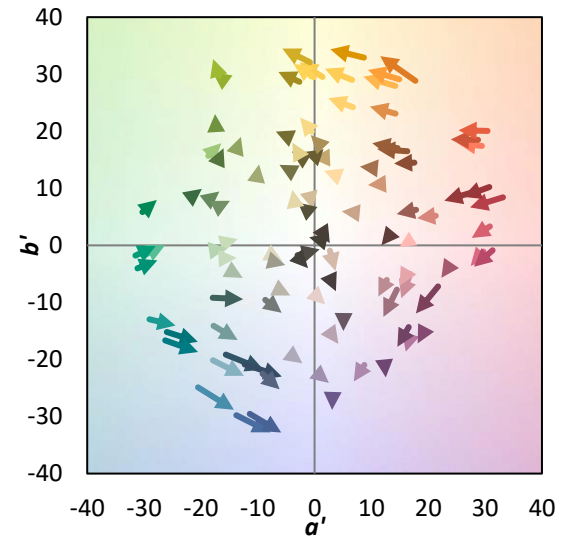
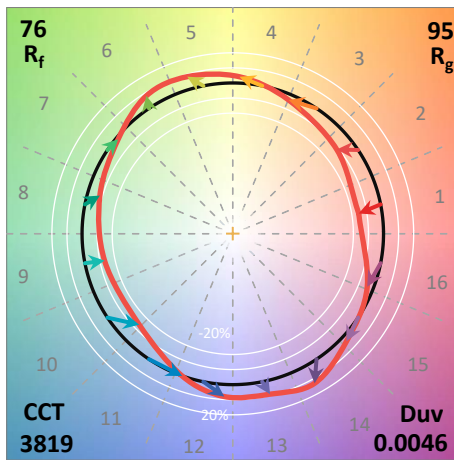
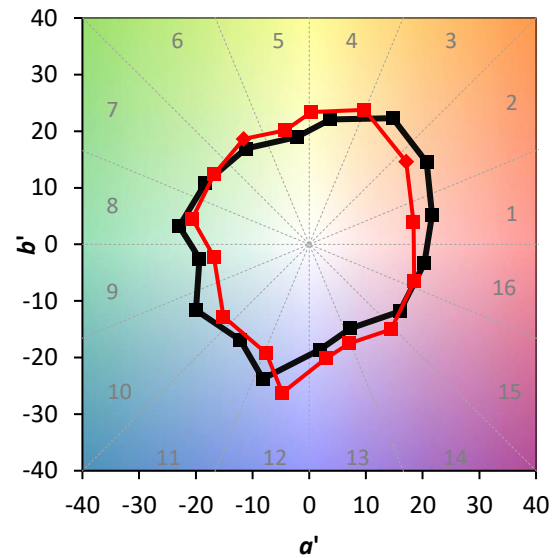
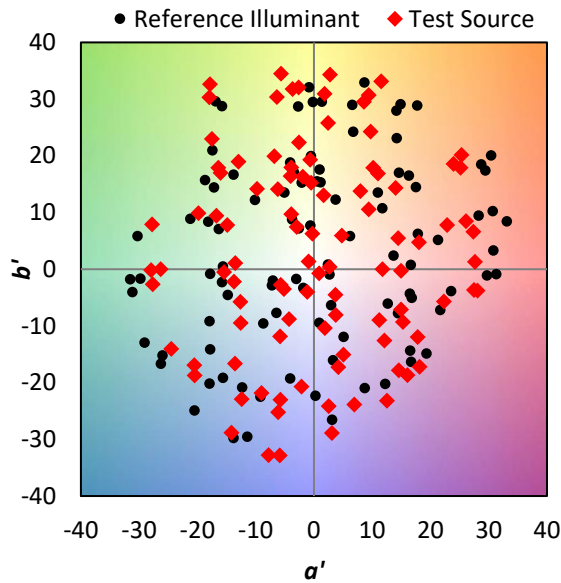
TM-30-18

Summary

$R_f = 75.6$
 $R_g = 94.8$
 $CIE R_a = 72.9$
 $R_g = -21.5$

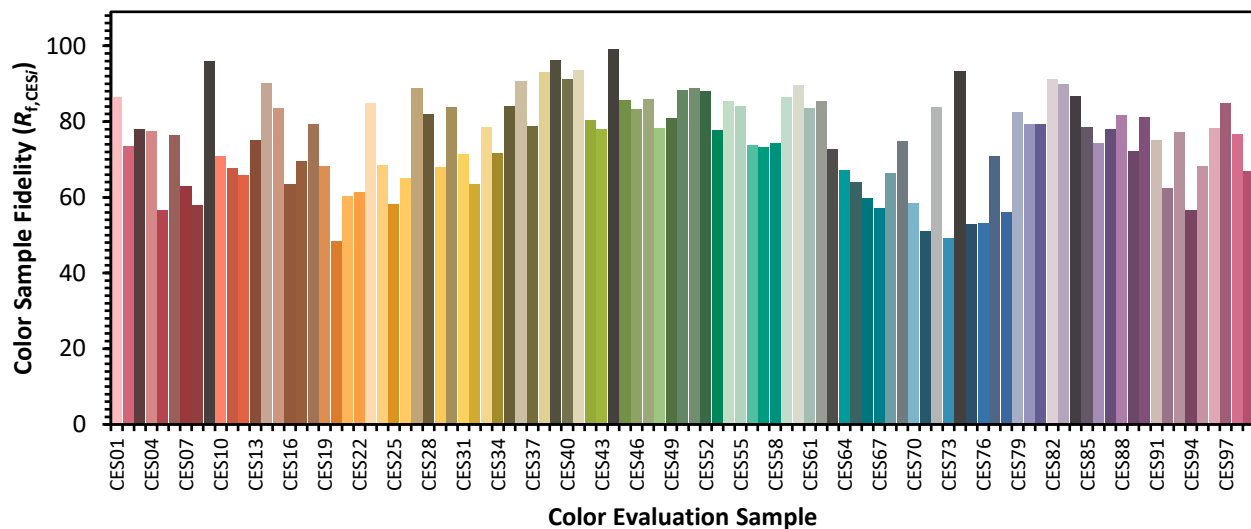


Color Vector Graphics

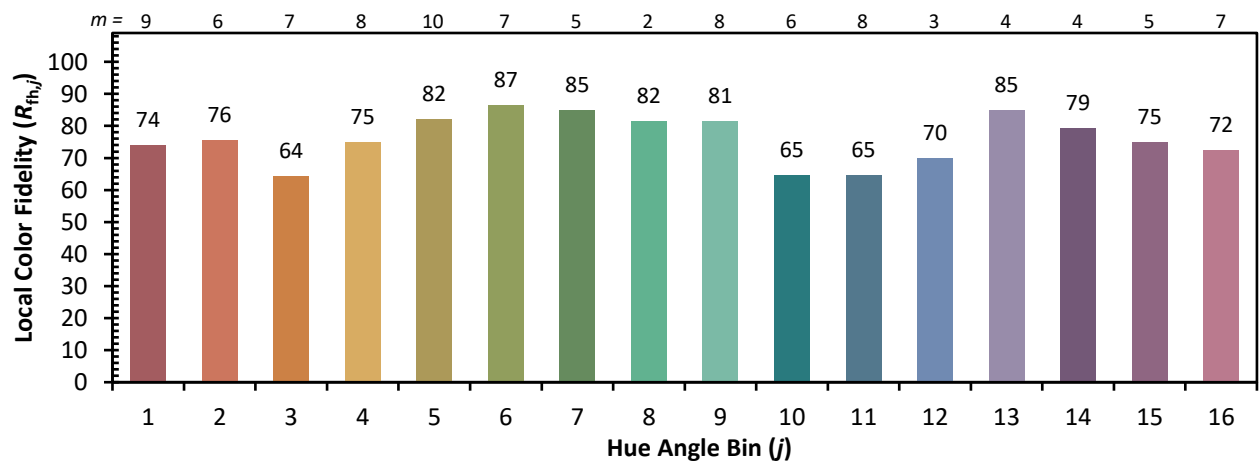
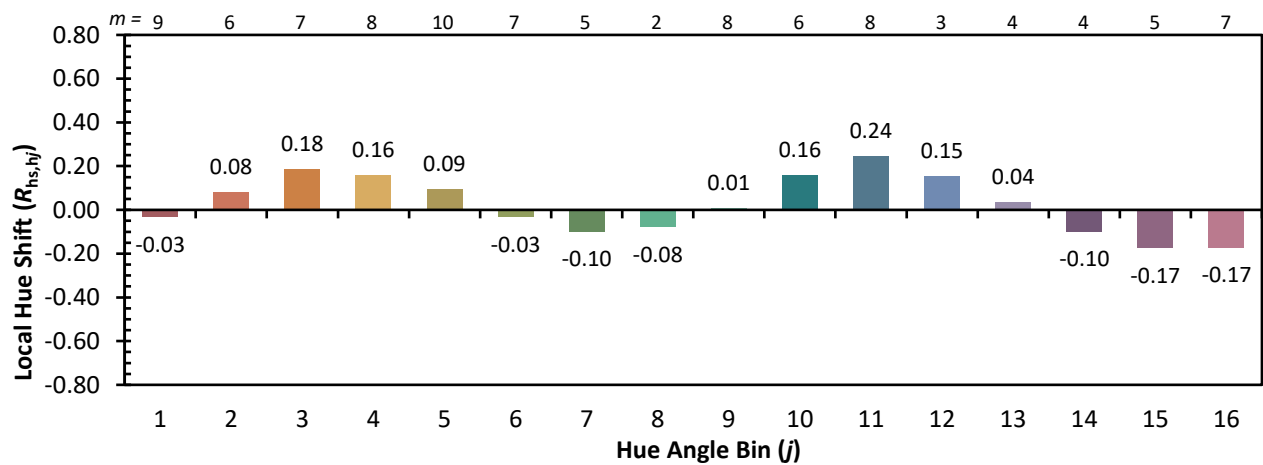
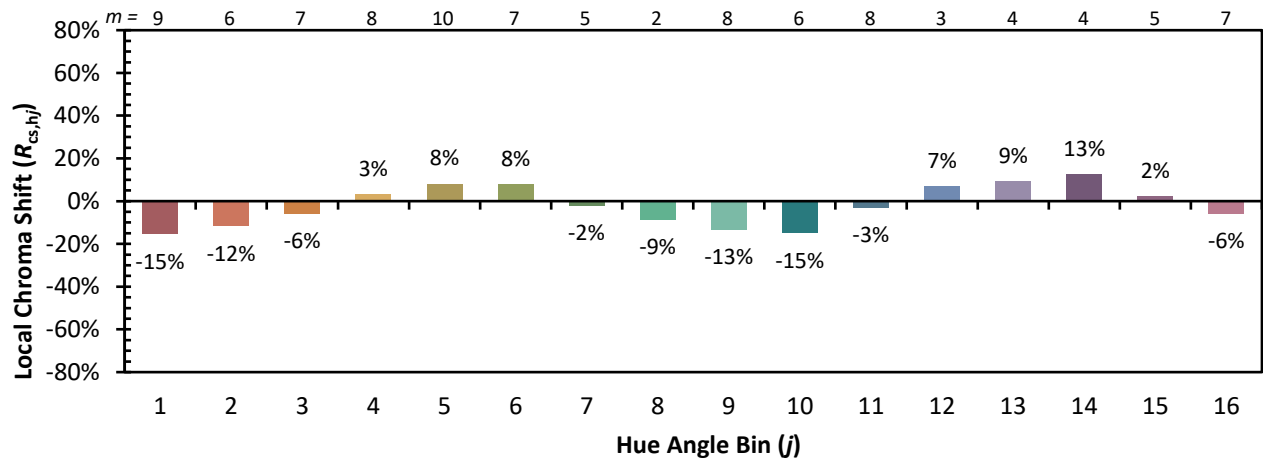


Individual Sample Fidelity Index ($R_{f,i}$)

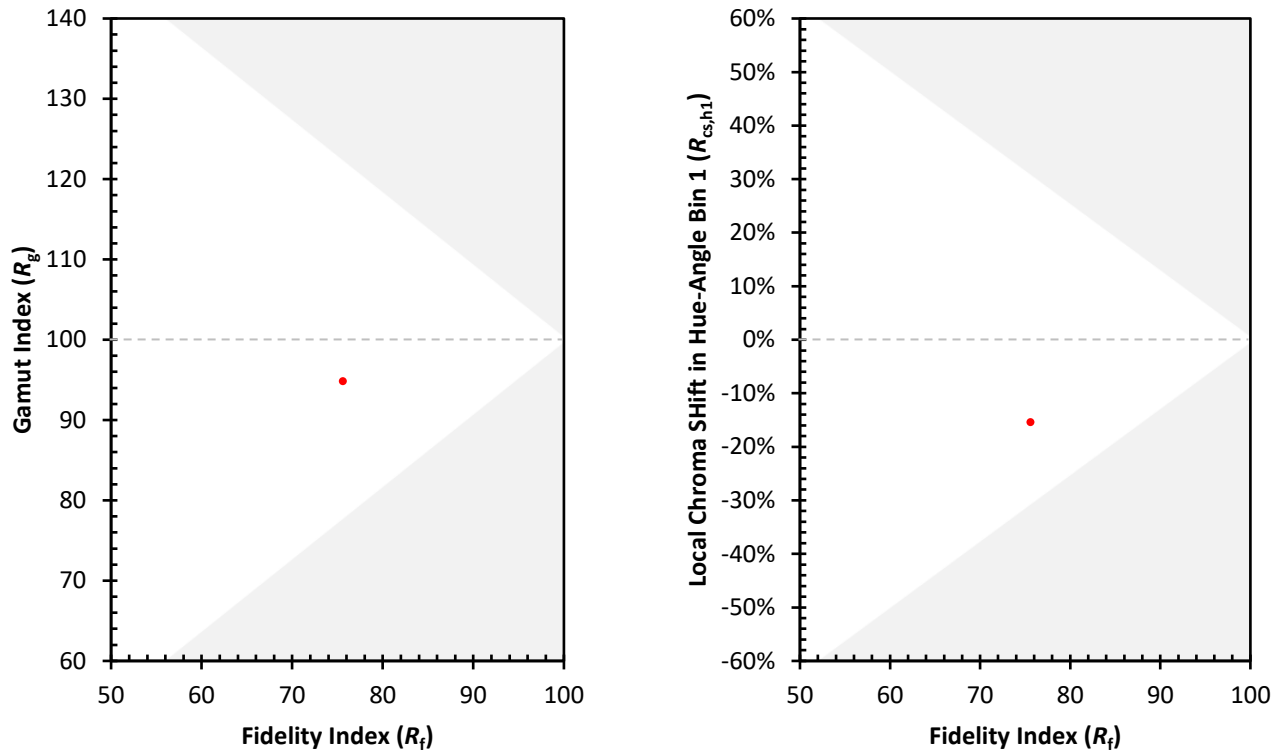
CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 91
CES08 = 39	CES33 = 79	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 84	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 74
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 78
CES13 = 42	CES38 = 93	CES63 = 73	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 81
CES16 = 47	CES41 = 93	CES66 = 60	CES91 = 75
CES17 = 49	CES42 = 80	CES67 = 57	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 58	CES95 = 68
CES21 = 86	CES46 = 83	CES71 = 51	CES96 = 78
CES22 = 78	CES47 = 86	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 49	CES98 = 77
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 67
CES25 = 72	CES50 = 88	CES75 = 53	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)