

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: P436822

Luminaire Tested: **TT-D3-830-U-WQ-HSS**

Issue Date: 12/2/2020

Test Information

Test Method: LM-79-08
Report Number: P436822
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-2)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: TT-D3-830-U-WQ-HSS
Description: TOPTIER LED PARKING GARAGE LUMINAIRE
3000K, 80 CRI LEDS AND WIDE DISTRIBUTION WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4561 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U2 - G2

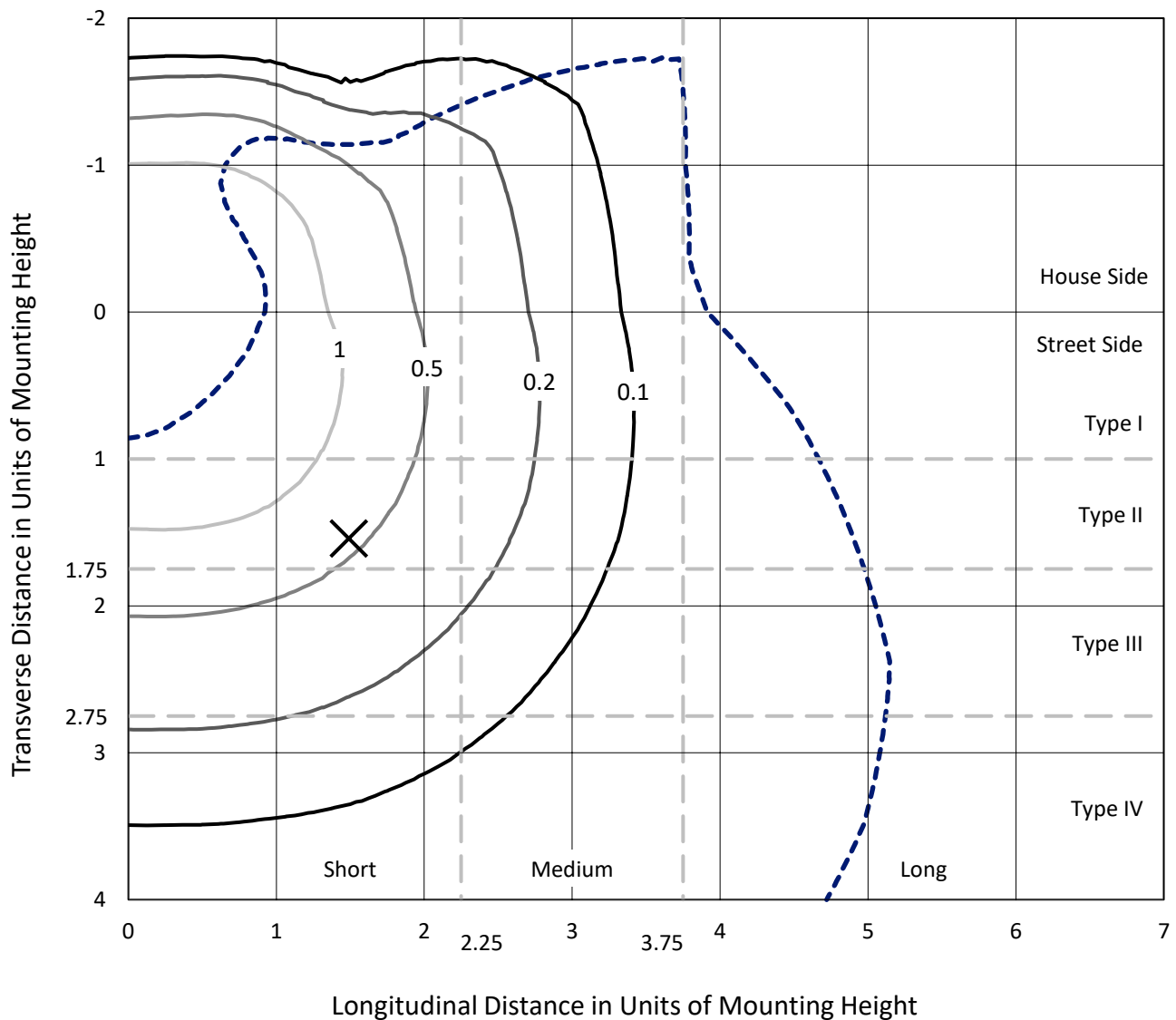
Input Watts (W): 47.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

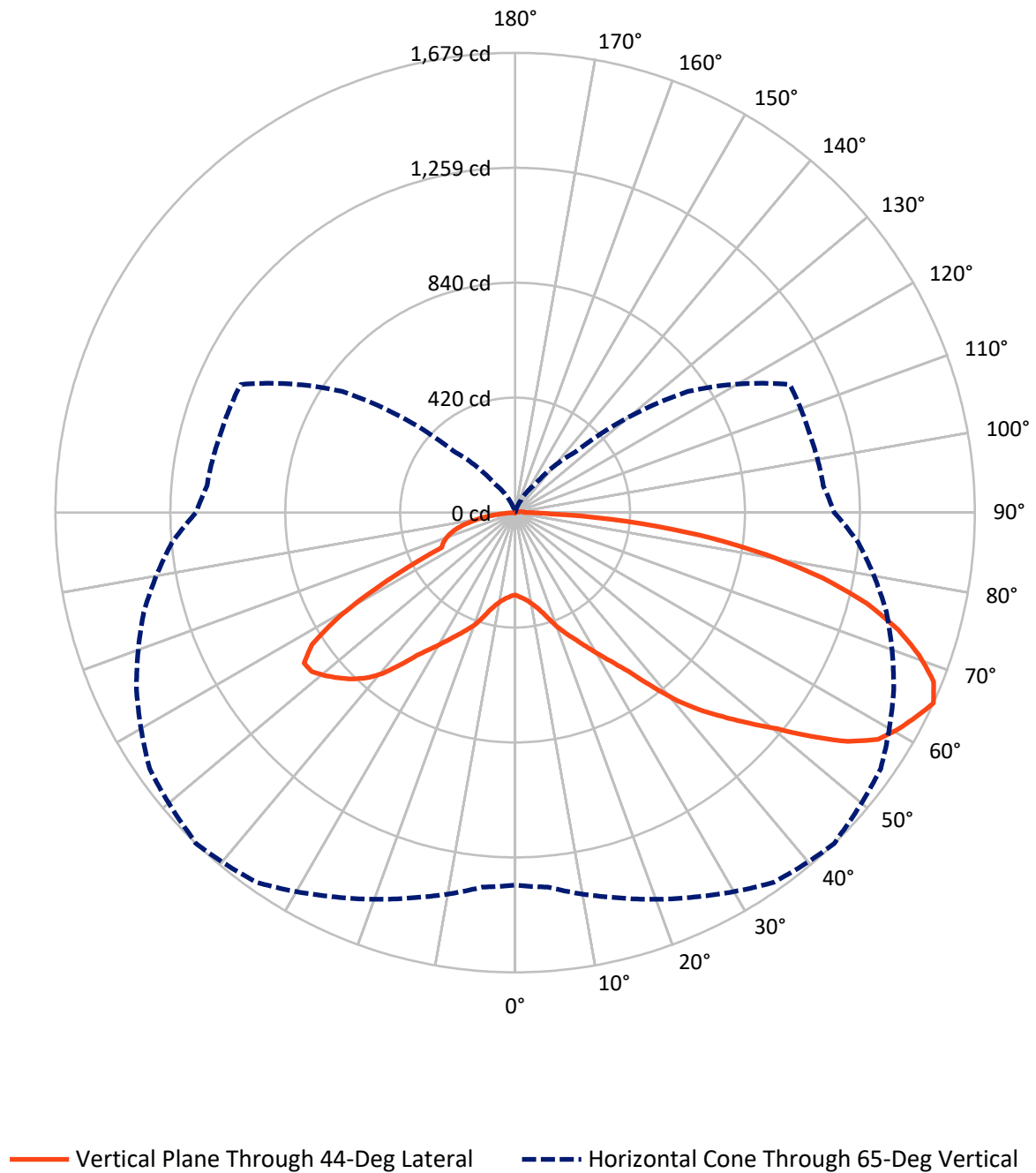


Based on 15 foot mounting height. Maximum calculated value = 1.8 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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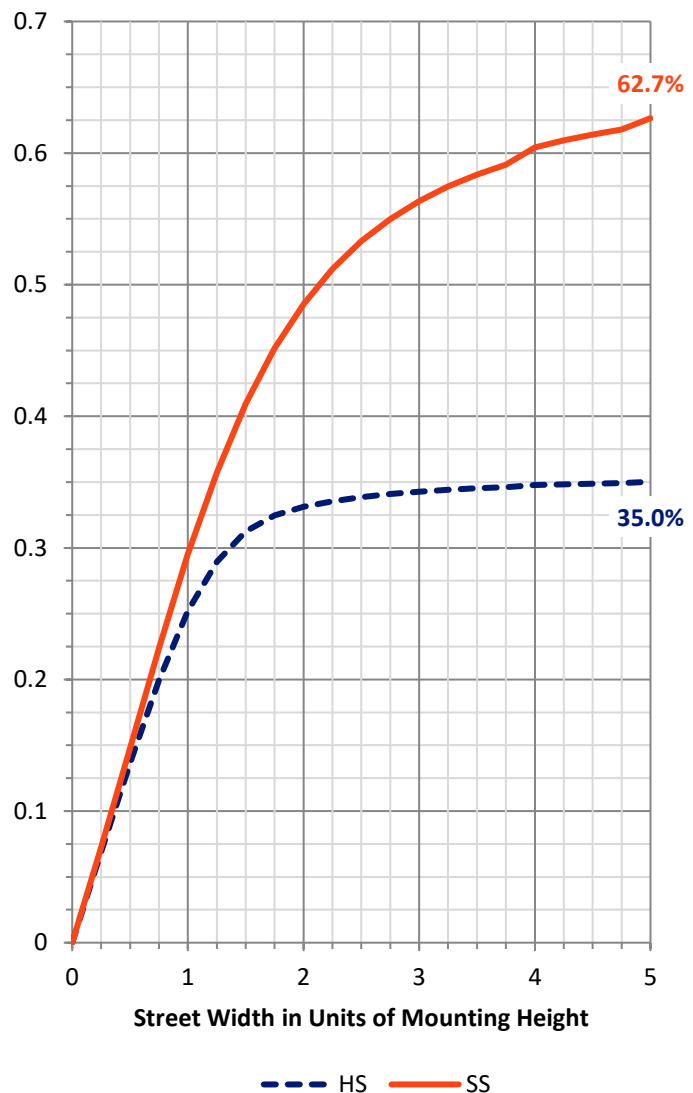
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1606.5	1.1	1607.6
	% Fixture	35.2	0.0	35.2
Street Side	Lumens	2935.0	18.5	2953.5
	% Fixture	64.3	0.4	64.8
Total	Lumens	4541.5	19.6	4561.0
	% Fixture	99.6	0.4	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.5	0.7
10°-20°	108.3	2.4
20°-30°	232.1	5.1
30°-40°	420.4	9.2
40°-50°	701.6	15.4
50°-60°	971.7	21.3
60°-70°	1007.0	22.1
70°-80°	810.5	17.8
80°-90°	259.2	5.7
90°-100°	13.1	0.3
100°-110°	4.2	0.1
110°-120°	0.8	0.0
120°-130°	0.5	0.0
130°-140°	0.3	0.0
140°-150°	0.3	0.0
150°-160°	0.1	0.0
160°-170°	0.1	0.0
170°-180°	0.0	0.0
0°-90°	4541.5	99.6
0°-180°	4561.0	100.0



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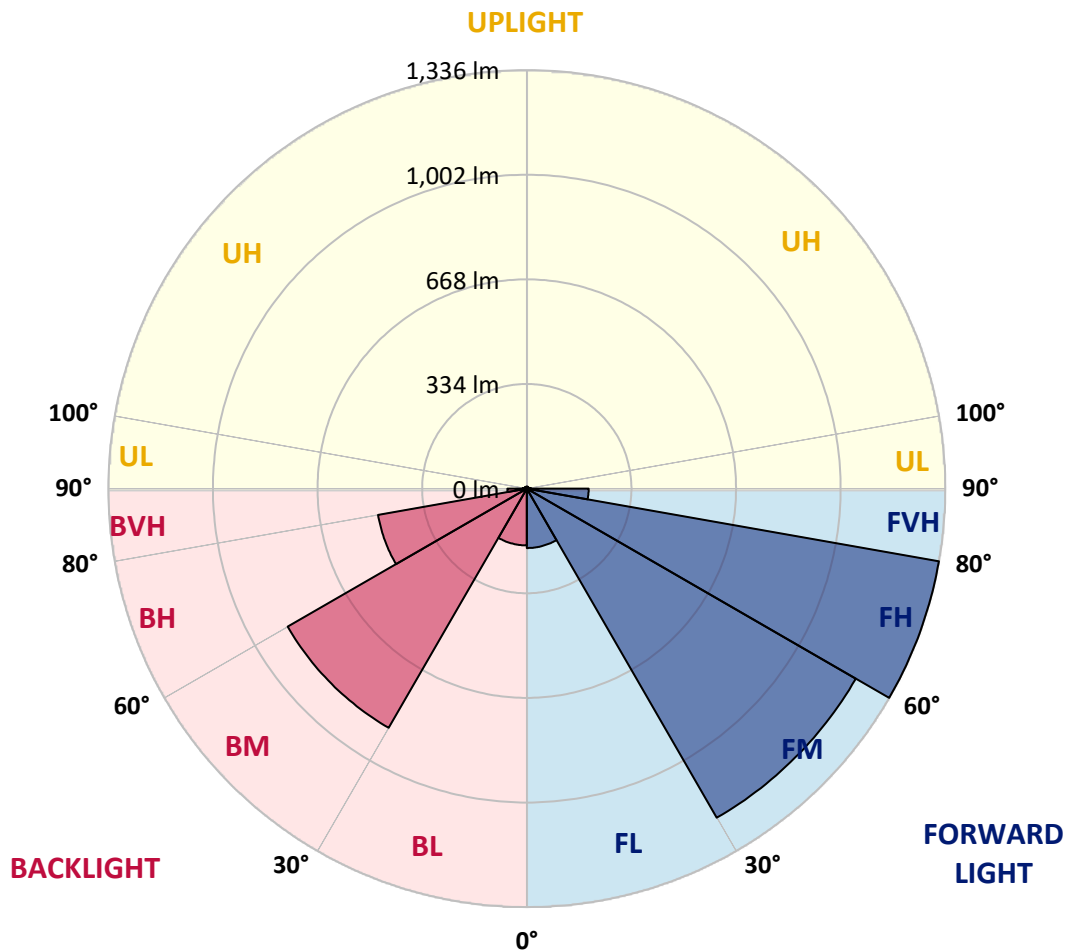
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	189.7	4.2			
FM	(30°-60°)	1212.6	26.6			
FH	(60°-80°)	1335.5	29.3			G1/1800
FVH	(80°-90°)	197.2	4.3			G2/225
BL	(0°-30°)	181.3	4.0	B1/500		
BM	(30°-60°)	881.2	19.3	B1/1000		
BH	(60°-80°)	482.0	10.6	B1/500		G1/500
BVH	(80°-90°)	62.0	1.4			G1/100
UL	(90°-100°)	13.1	0.3		U2/50	
UH	(100°-180°)	6.4	0.1		U1/10	

BUG Rating: B1-U2-G2

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0
2.5°	309.9	309.0	309.0	308.1	308.1	308.1	308.1	308.1	307.2	306.3	305.4
5°	317.9	317.9	317.0	317.0	316.1	315.2	316.1	315.2	314.3	313.4	312.5
7.5°	328.6	327.7	327.7	325.9	325.9	325.0	325.0	325.0	324.1	322.3	321.4
10°	343.7	341.9	341.9	340.1	339.3	338.4	338.4	336.6	336.6	335.7	334.8
12.5°	360.6	358.8	360.6	359.7	358.0	356.2	356.2	354.4	353.5	352.6	349.0
15°	382.9	380.2	382.0	382.0	381.1	380.2	380.2	376.7	374.9	373.1	369.5
17.5°	409.6	407.8	408.7	409.6	412.3	412.3	413.2	408.7	405.1	398.9	396.2
20°	443.4	442.5	445.2	445.2	447.9	447.9	448.8	444.3	438.1	433.6	428.3
22.5°	476.4	476.4	479.9	479.9	482.6	480.8	480.8	479.0	471.9	466.6	461.2
25°	510.2	509.3	512.9	515.6	519.1	514.7	516.4	513.8	506.7	499.5	492.4
27.5°	547.6	545.8	547.6	551.2	557.4	553.8	555.6	551.2	544.1	534.3	528.0
30°	588.6	585.9	588.6	593.9	598.4	600.1	599.3	593.0	586.8	572.5	568.1
32.5°	628.6	628.6	634.9	644.7	650.0	649.1	650.0	644.7	635.8	618.0	607.3
35°	677.6	681.2	689.2	703.4	715.0	710.6	710.6	708.8	693.6	672.3	658.0
37.5°	742.6	746.2	762.2	779.1	800.5	798.7	799.6	794.3	764.9	742.6	722.1
40°	818.3	821.9	845.9	869.9	890.4	896.7	897.6	886.0	853.9	821.9	789.8
42.5°	887.8	892.2	917.1	951.0	973.2	983.0	984.8	966.1	932.3	895.8	855.7
45°	957.2	962.6	991.0	1026.7	1058.7	1063.2	1064.1	1048.0	1010.6	968.8	917.1
47.5°	1028.4	1032.9	1062.3	1105.0	1139.7	1148.7	1149.5	1134.4	1089.0	1038.2	977.7
50°	1093.4	1102.3	1142.4	1187.8	1234.1	1241.3	1242.1	1225.2	1171.8	1114.8	1034.7
52.5°	1170.0	1174.5	1217.2	1292.9	1332.1	1359.7	1360.6	1327.6	1270.6	1194.1	1090.8
55°	1259.1	1267.1	1310.7	1386.4	1456.7	1475.4	1480.8	1441.6	1365.9	1283.1	1162.0
57.5°	1310.7	1325.8	1390.0	1462.1	1550.2	1562.7	1565.4	1524.4	1440.7	1349.9	1215.4
60°	1338.3	1347.2	1414.9	1527.1	1595.6	1607.2	1606.3	1575.2	1491.5	1381.1	1240.4
62.5°	1369.5	1384.6	1441.6	1555.6	1615.2	1643.7	1639.3	1607.2	1521.7	1400.6	1264.4
65°	1360.6	1373.0	1456.7	1549.3	1648.2	1679.3	1673.1	1630.4	1526.2	1404.2	1258.2
67.5°	1325.0	1334.8	1417.6	1532.4	1626.8	1649.1	1659.8	1617.9	1501.3	1365.9	1219.0
70°	1251.9	1267.1	1347.2	1464.8	1551.1	1567.2	1568.9	1543.1	1438.0	1295.6	1154.0
72.5°	1151.3	1163.8	1251.0	1370.4	1445.2	1463.9	1465.6	1426.5	1347.2	1199.4	1060.5
75°	1031.1	1042.7	1110.4	1235.0	1308.9	1327.6	1325.8	1289.3	1205.6	1065.8	936.7
77.5°	882.4	903.8	963.4	1065.8	1138.0	1147.8	1149.5	1109.5	1041.8	920.7	795.2
80°	696.3	716.8	784.5	861.0	921.6	929.6	932.3	898.4	837.0	730.2	623.3
82.5°	495.1	512.9	566.3	628.6	679.4	679.4	681.2	653.6	606.4	514.7	431.0
85°	282.3	295.6	331.2	375.8	412.3	407.8	408.7	383.8	352.6	281.4	227.9
87.5°	92.6	98.8	106.9	123.8	140.7	130.0	135.3	112.2	101.5	75.7	58.8
90°	49.0	49.0	47.2	45.4	41.9	36.5	36.5	29.4	22.3	14.2	5.3
92.5°	44.5	44.5	42.7	41.0	37.4	32.9	32.9	26.7	19.6	12.5	4.5
95°	36.5	36.5	35.6	33.8	31.2	27.6	26.7	22.3	16.9	9.8	3.6
97.5°	28.5	28.5	27.6	26.7	24.0	21.4	21.4	16.9	12.5	8.0	2.7
100°	21.4	21.4	21.4	19.6	18.7	16.0	16.0	13.4	9.8	6.2	1.8
102.5°	15.1	16.0	15.1	14.2	13.4	11.6	11.6	9.8	7.1	4.5	1.8
105°	10.7	10.7	9.8	9.8	8.9	8.0	8.0	6.2	4.5	2.7	0.9
107.5°	6.2	6.2	6.2	6.2	5.3	5.3	5.3	4.5	2.7	1.8	0.9
110°	3.6	3.6	3.6	3.6	2.7	2.7	2.7	1.8	1.8	0.9	0.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
112.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	0.9	0.9	0.9	0.9
115°	0.9	0.9	0.9	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9
117.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
120°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
122.5°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
125°	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
127.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
130°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
132.5°	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
135°	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
140°	0.9	0.9	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
142.5°	0.9	0.9	0.9	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
145°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
147.5°	0.9	0.9	0.9	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.9
150°	0.9	0.9	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
160°	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
162.5°	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
165°	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
167.5°	0.9	0.9	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
170°	0.9	0.0	0.0	0.0	0.0	0.9	0.0	0.9	0.9	0.9	0.9
172.5°	0.9	0.9	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
175°	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9	0.9	0.9	0.9
177.5°	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.9	0.9	0.9	0.9
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°	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0	301.0
2.5°	305.4	305.4	304.5	303.6	303.6	303.6	302.7	302.7	302.7	301.9	301.9
5°	312.5	311.6	311.6	310.8	310.8	309.9	309.9	309.0	308.1	308.1	307.2
7.5°	322.3	321.4	319.7	320.6	318.8	317.9	317.0	317.0	317.0	316.1	316.1
10°	333.9	333.9	332.1	332.1	330.3	329.5	328.6	328.6	329.5	329.5	328.6
12.5°	349.0	348.2	348.2	347.3	346.4	345.5	346.4	346.4	345.5	344.6	343.7
15°	367.7	367.7	367.7	368.6	367.7	367.7	367.7	366.9	365.1	363.3	363.3
17.5°	396.2	395.3	393.6	394.5	396.2	398.9	396.2	393.6	390.9	390.9	390.0
20°	425.6	426.5	426.5	427.4	430.1	432.7	429.2	427.4	425.6	423.8	422.1
22.5°	457.7	458.6	458.6	457.7	459.5	458.6	456.8	455.0	453.2	450.6	448.8
25°	488.8	489.7	488.8	488.0	488.8	486.2	483.5	480.8	476.4	471.9	471.9
27.5°	523.6	522.7	519.1	520.0	518.2	516.4	511.1	504.9	498.6	494.2	494.2
30°	560.1	560.1	553.0	556.5	553.0	552.1	540.5	532.5	523.6	517.3	516.4
32.5°	600.1	598.4	593.0	596.6	593.0	589.5	575.2	564.5	549.4	540.5	539.6
35°	648.2	643.8	639.3	642.9	642.9	633.1	618.8	599.3	577.9	567.2	566.3
37.5°	707.0	704.3	699.0	703.4	707.0	697.2	675.8	647.3	617.1	601.0	600.1
40°	772.0	768.4	765.8	772.0	774.7	764.9	736.4	696.3	655.4	632.2	628.6
42.5°	833.4	825.4	821.0	829.9	827.2	816.5	777.3	731.0	674.9	648.2	643.8
45°	888.6	879.7	873.5	881.5	878.0	856.6	813.0	750.6	683.0	650.0	644.7
47.5°	943.0	929.6	919.8	930.5	923.4	890.4	837.0	760.4	674.1	634.9	626.0
50°	989.3	973.2	967.0	979.5	968.8	922.5	853.9	756.0	651.8	594.8	580.6
52.5°	1044.5	1020.4	1014.2	1038.2	1014.2	952.8	857.5	745.3	601.0	532.5	519.1
55°	1100.6	1073.9	1064.1	1086.3	1049.8	959.0	839.7	683.8	524.5	451.4	431.9
57.5°	1130.0	1105.0	1096.1	1112.1	1044.5	898.4	760.4	569.9	409.6	327.7	306.3
60°	1156.7	1113.0	1101.5	1122.8	989.3	757.8	588.6	408.7	247.5	186.1	170.1
62.5°	1175.4	1133.5	1109.5	1119.3	887.8	551.2	338.4	196.8	93.5	65.0	64.1
65°	1165.6	1130.0	1113.9	1106.8	771.1	317.0	124.7	49.9	2.7	2.7	1.8
67.5°	1135.3	1096.1	1091.7	1097.9	763.1	304.5	115.8	45.4	0.0	0.0	0.0
70°	1068.5	1040.9	1040.9	1062.3	728.4	288.5	107.7	41.9	0.0	0.0	0.0
72.5°	978.6	957.2	969.7	1001.7	676.7	266.2	97.1	37.4	0.0	0.0	0.0
75°	870.8	848.6	864.6	900.2	612.6	237.7	84.6	32.1	0.0	0.0	0.0
77.5°	733.7	718.6	743.5	776.5	527.1	200.3	69.5	25.8	0.0	0.0	0.0
80°	571.7	563.6	596.6	626.0	425.6	157.6	52.5	18.7	0.0	0.0	0.0
82.5°	394.5	390.9	423.0	453.2	304.5	110.4	35.6	12.5	0.0	0.0	0.0
85°	206.6	206.6	231.5	259.1	170.1	59.7	17.8	5.3	0.0	0.0	0.0
87.5°	45.4	43.6	47.2	60.5	33.8	11.6	2.7	0.9	0.0	0.0	0.0
90°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
92.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
97.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
102.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
105°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
107.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0



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CATALOG NUMBER: TT-D3-830-U-WQ-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
117.5°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
122.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
125°	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
127.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.9	0.9	0.9	0.0	0.0	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: SP1-2407-176-7

Test Date: 09/27/2024

Luminaire Tested: MEM2-HTN-VA-30-830-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-830-U-WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-7
 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-30-830-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 2984
 CIE u' : 0.2500
 CIE v' : 0.5264
 Duv: 0.0033
 CIE x: 0.4431
 CIE y: 0.4147
 CIE z: 0.1422
 Peak Wavelength (nm): 601
 Dominant Wavelength (nm): 581
 Purity: 57.4798
 R_f: 85.8
 R_g: 94.1

CRI (Ra): 81.8
 R1: 79.4
 R2: 89.9
 R3: 96.6
 R4: 80.6
 R5: 80.1
 R6: 88.9
 R7: 82.6
 R8: 56.0
 R9: -1.1
 R10: 78.4
 R11: 80.8
 R12: 72.8
 R13: 81.7
 R14: 98.5
 R15: 70.2



Test Conditions

Stabilization Time: 29M
 Operation Time: 1H 29M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-7

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



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-176-7

Photopic Flux vs. Wavelength



Photopic Lumens: NR

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.32

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	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

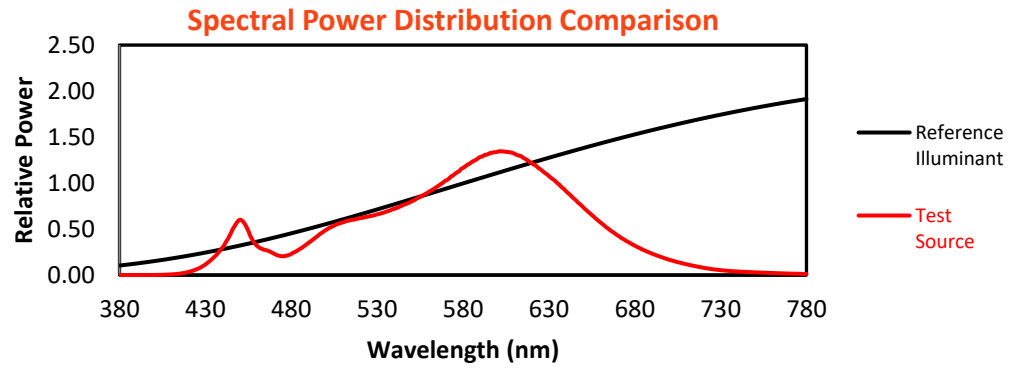
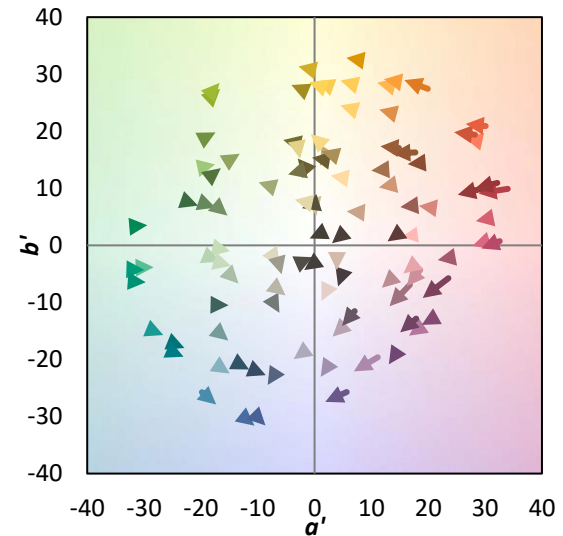
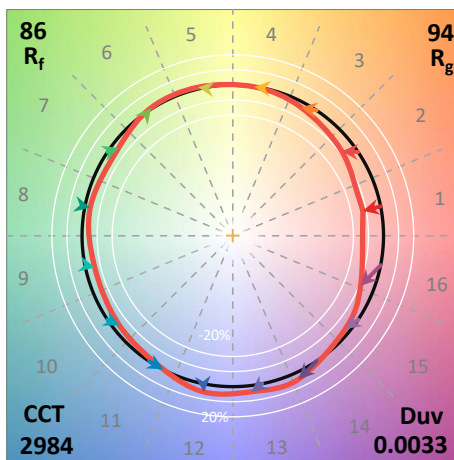
REPORT NUMBER: SP1-2407-176-7

Melanopic Flux vs. Wavelength


Melanopic Lumens: NR
M/P: 2.51

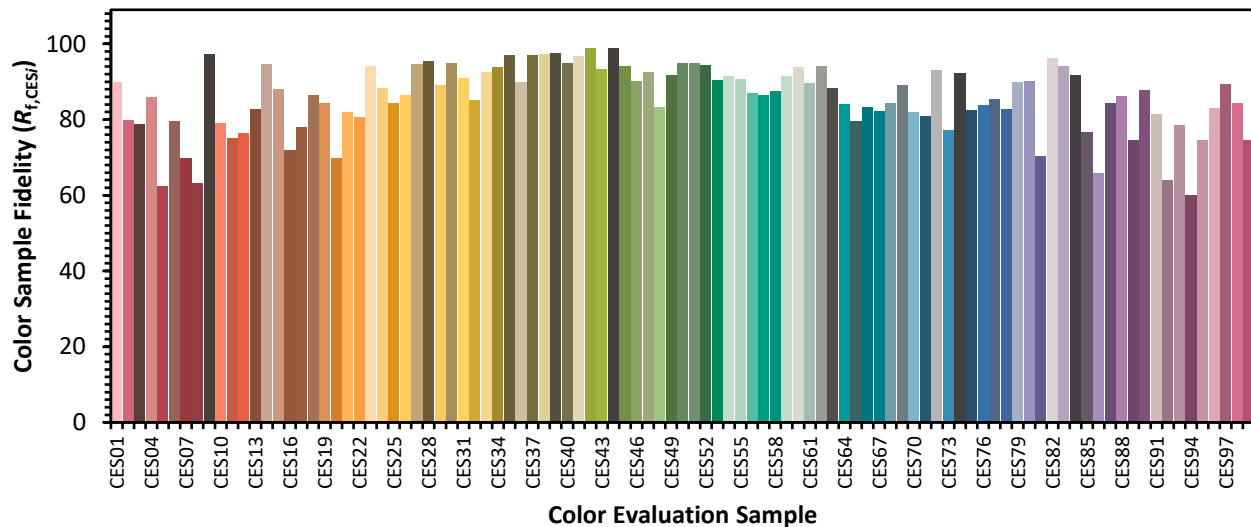
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	260	NR	620	905	NR	750	22	NR	880	0	NR
365	0	NR	495	312	NR	625	856	NR	755	19	NR	885	0	NR
370	0	NR	500	362	NR	630	801	NR	760	17	NR	890	0	NR
375	0	NR	505	399	NR	635	742	NR	765	14	NR	895	0	NR
380	0	NR	510	425	NR	640	677	NR	770	12	NR	900	0	NR
385	0	NR	515	446	NR	645	613	NR	775	10	NR	905	0	NR
390	0	NR	520	459	NR	650	549	NR	780	9	NR	910	0	NR
395	0	NR	525	473	NR	655	485	NR	785	7	NR	915	0	NR
400	1	NR	530	490	NR	660	425	NR	790	6	NR	920	0	NR
405	2	NR	535	511	NR	665	371	NR	795	5	NR	925	0	NR
410	5	NR	540	535	NR	670	321	NR	800	4	NR	930	0	NR
415	11	NR	545	565	NR	675	276	NR	805	4	NR	935	0	NR
420	24	NR	550	595	NR	680	238	NR	810	3	NR	940	0	NR
425	47	NR	555	631	NR	685	203	NR	815	3	NR	945	0	NR
430	86	NR	560	672	NR	690	174	NR	820	2	NR	950	0	NR
435	144	NR	565	715	NR	695	148	NR	825	2	NR	955	0	NR
440	224	NR	570	763	NR	700	124	NR	830	2	NR	960	0	NR
445	342	NR	575	814	NR	705	105	NR	835	2	NR	965	0	NR
450	446	NR	580	866	NR	710	88	NR	840	1	NR	970	0	NR
455	357	NR	585	912	NR	715	73	NR	845	1	NR	975	0	NR
460	237	NR	590	954	NR	720	59	NR	850	1	NR	980	0	NR
465	202	NR	595	981	NR	725	48	NR	855	1	NR	985	0	NR
470	172	NR	600	996	NR	730	40	NR	860	1	NR	990	0	NR
475	152	NR	605	996	NR	735	34	NR	865	1	NR	995	0	NR
480	171	NR	610	980	NR	740	29	NR	870	0	NR	1000	0	NR
485	210	NR	615	947	NR	745	25	NR	875	0	NR			

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TM-30-18
Summary
 $R_f = 85.8$
 $R_g = 94.1$
 CIE $R_a = 81.8$
 $R_g = -1.1$

Color Vector Graphics


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

CES01 = 86	CES26 = 86	CES51 = 95	CES76 = 84
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 95	CES53 = 90	CES78 = 83
CES04 = 70	CES29 = 89	CES54 = 91	CES79 = 90
CES05 = 50	CES30 = 95	CES55 = 91	CES80 = 90
CES06 = 51	CES31 = 91	CES56 = 87	CES81 = 70
CES07 = 42	CES32 = 85	CES57 = 86	CES82 = 96
CES08 = 41	CES33 = 93	CES58 = 87	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 92	CES84 = 92
CES10 = 76	CES35 = 97	CES60 = 94	CES85 = 77
CES11 = 59	CES36 = 90	CES61 = 90	CES86 = 66
CES12 = 65	CES37 = 97	CES62 = 94	CES87 = 84
CES13 = 43	CES38 = 97	CES63 = 88	CES88 = 86
CES14 = 74	CES39 = 98	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 80	CES90 = 88
CES16 = 47	CES41 = 97	CES66 = 83	CES91 = 81
CES17 = 50	CES42 = 99	CES67 = 82	CES92 = 64
CES18 = 56	CES43 = 93	CES68 = 84	CES93 = 79
CES19 = 72	CES44 = 99	CES69 = 89	CES94 = 60
CES20 = 67	CES45 = 94	CES70 = 82	CES95 = 74
CES21 = 87	CES46 = 90	CES71 = 81	CES96 = 83
CES22 = 79	CES47 = 93	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 83	CES73 = 77	CES98 = 84
CES24 = 91	CES49 = 92	CES74 = 92	CES99 = 75
CES25 = 72	CES50 = 95	CES75 = 83	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)