

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number:

Luminaire Tested: EHBR1-24-UNV-TA-L950-UPL40

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: REPORT IS A COMBINATION OF REPORTS P1431706 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-24-UNV-TA-L950-UPL40
Description: Elevate Round Highbay at, 24000 lumens, 5000K 90CRI LEDs with TA lens
Light Source: -
Ballast/Driver: -

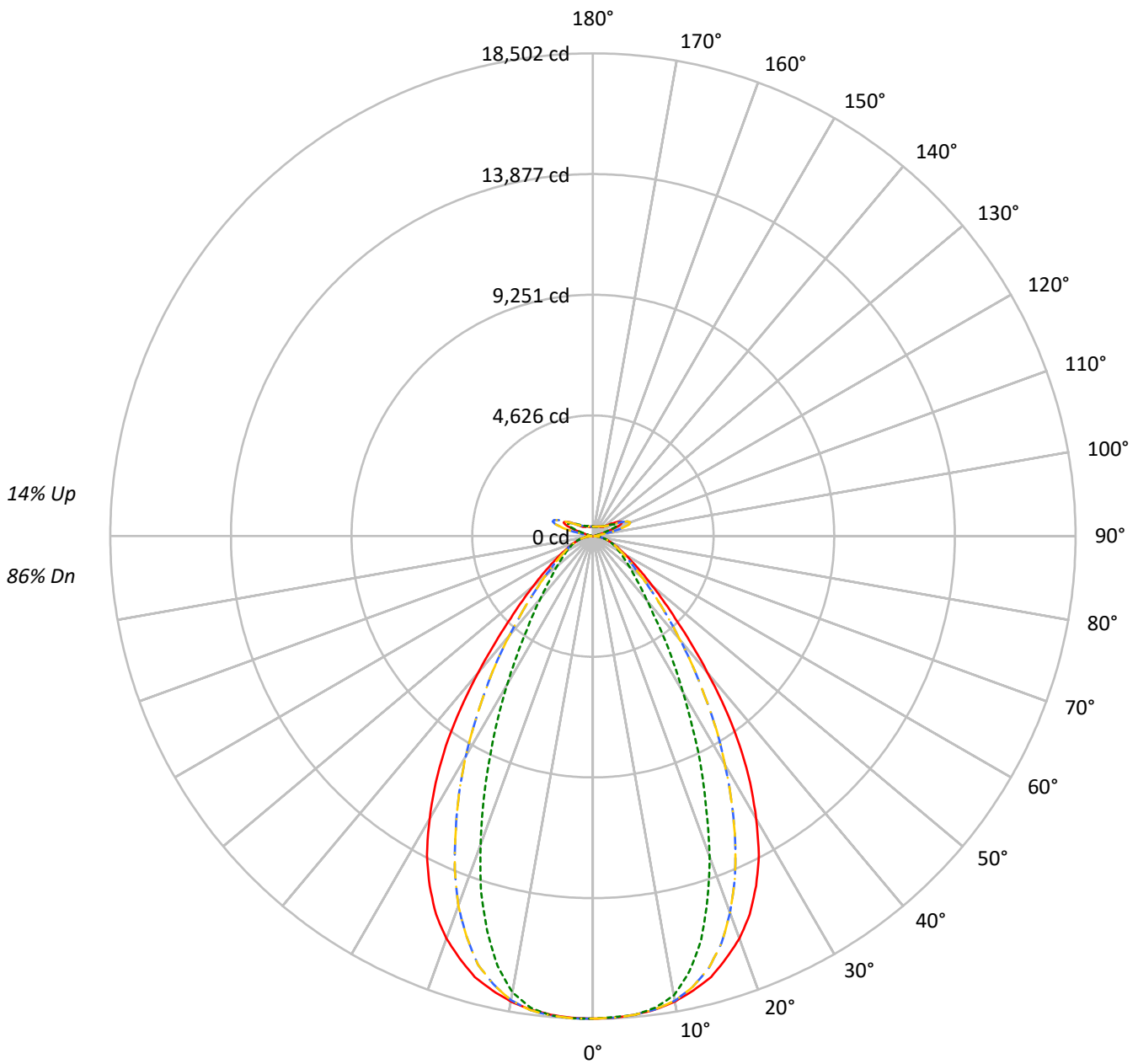
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26579.2 lumens
Efficiency: N/A
Efficacy: 167.3 lumens/watt
Spacing Criteria (0/90/45): 1.07 / 0.8 / 0.93
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 158.9
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

TEST NUMBER:
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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



TEST NUMBER:

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10		0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	116	116	116	116	112	112	112	112	104	104	104	96	96	96	90	90	90	86		
1	108	105	101	99	104	101	98	96	95	92	90	88	87	85	83	82	80	78		
2	101	95	89	85	97	92	87	83	86	82	79	81	78	76	76	74	72	69		
3	94	86	80	75	91	84	78	73	79	74	70	75	71	68	70	67	65	62		
4	88	79	72	66	85	76	70	65	72	67	63	69	64	61	65	62	59	57		
5	82	72	65	60	80	70	64	59	67	61	57	64	59	55	61	57	54	51		
6	77	66	59	54	75	65	58	53	62	56	52	59	54	51	56	52	49	47		
7	73	62	54	49	70	60	53	49	58	52	48	55	50	46	53	49	45	43		
8	68	57	50	45	66	56	49	45	54	48	44	52	46	43	49	45	42	40		
9	64	53	46	42	63	52	46	41	50	45	41	48	43	40	46	42	39	37		
10	61	50	43	39	59	49	43	38	47	42	38	45	40	37	44	39	36	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	86848	86848	86848	86848
5°	86265	86275	86265	86365
10°	85258	84142	85258	83591
15°	83399	76387	83399	74633
20°	79869	63655	79869	61177
25°	74092	49228	74092	46677
30°	65085	35883	65085	34059
35°	53489	25866	53489	24177
40°	39419	18609	39419	18035
45°	27532	14664	27532	14156
50°	19926	12166	19926	11982
55°	15091	10625	15091	10482
60°	12025	9583	12025	9650
65°	10105	8962	10105	9048
70°	8984	8511	8984	8595
75°	7940	7940	7940	8016
80°	6509	7172	6509	7172
85°	4172	4972	4172	5118

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°

Vertical Angle: 45°

Luminance: 28846 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1746.5	6.6
10°-20°	4693.8	17.7
20°-30°	5707.7	21.5
30°-40°	4649.3	17.5
40°-50°	2791.5	10.5
50°-60°	1606.5	6.0
60°-70°	1005.4	3.8
70°-80°	592.1	2.2
80°-90°	179.6	0.7
90°-100°	94.9	0.4
100°-110°	628.3	2.4
110°-120°	1162.3	4.4
120°-130°	689.7	2.6
130°-140°	416.2	1.6
140°-150°	287.5	1.1
150°-160°	186.7	0.7
160°-170°	106.1	0.4
170°-180°	35.0	0.1
0°-30°	12148.0	45.7
0°-40°	16797.3	63.2
0°-60°	21195.2	79.7
0°-90°	22972.3	86.4
90°-120°	1885.6	7.1
90°-150°	3279.0	12.3
90°-180°	3607.0	13.6
0°-180°	26579.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	18494	18494	18494	18494	18494	
5°	18419	18421	18419	18440	18419	1749
15°	17497	16026	17497	15658	17497	4905
25°	14796	9831	14796	9321	14796	6745
35°	9817	4747	9817	4437	9817	6062
45°	4454	2372	4454	2290	4454	3549
55°	2039	1436	2039	1416	2039	1875
65°	1055	935	1055	944	1055	1066
75°	559	559	559	565	559	591
85°	143	171	143	176	143	157
90°	26	27	26	26	26	18
95°	50	45	50	44	50	54
105°	288	219	288	143	288	389
115°	1237	1006	1237	1054	1237	1128
125°	791	726	791	826	791	728
135°	498	530	498	575	498	395
145°	450	438	450	470	450	282
155°	398	386	398	417	398	186
165°	371	365	371	381	371	106
175°	367	364	367	372	367	35
180°	367	367	367	367	367	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7
2.5°	18484.8	18480.6	18476.7	18469.8	18453.1	18469.8	18476.7	18480.6	18484.8	18496.5	18501.5
5°	18419.0	18435.7	18418.2	18422.1	18421.0	18422.1	18418.2	18435.7	18419.0	18430.6	18451.6
7.5°	18304.0	18300.9	18295.1	18272.2	18233.5	18272.2	18295.1	18300.9	18304.0	18318.3	18333.0
10°	18114.2	18126.5	18085.5	17941.8	17877.1	17941.8	18085.5	18126.5	18114.2	18137.4	18063.0
12.5°	17832.6	17862.8	17696.6	17323.2	17095.9	17323.2	17696.6	17862.8	17832.6	17853.1	17599.7
15°	17496.7	17471.5	17143.8	16359.1	16025.6	16359.1	17143.8	17471.5	17496.7	17471.5	17006.3
17.5°	16973.8	17010.2	16374.2	15218.8	14602.9	15218.8	16374.2	17010.2	16973.8	16985.9	16102.7
20°	16415.3	16426.5	15365.6	13739.5	13082.9	13739.5	15365.6	16426.5	16415.3	16347.9	15076.3
22.5°	15704.5	15708.7	14209.8	12210.7	11363.9	12210.7	14209.8	15708.7	15704.5	15592.2	13826.2
25°	14796.1	14829.5	12909.0	10661.3	9830.8	10661.3	12909.0	14829.5	14796.1	14668.4	12437.7
27.5°	13776.3	13799.1	11520.4	9109.2	8245.8	9109.2	11520.4	13799.1	13776.3	13636.9	11110.2
30°	12519.0	12665.4	10125.9	7691.5	6902.1	7691.5	10125.9	12665.4	12519.0	12503.1	9741.8
32.5°	11220.6	11479.8	8811.3	6427.6	5750.9	6427.6	8811.3	11479.8	11220.6	11294.6	8377.9
35°	9817.2	10108.6	7447.1	5343.4	4747.3	5343.4	7447.1	10108.6	9817.2	9912.9	7126.4
37.5°	8329.4	8774.9	6290.8	4426.2	3852.9	4426.2	6290.8	8774.9	8329.4	8509.9	6025.5
40°	6832.3	7311.5	5194.3	3680.1	3225.4	3680.1	5194.3	7311.5	6832.3	7126.4	4975.0
42.5°	5546.8	5914.4	4287.1	3075.9	2779.2	3075.9	4287.1	5914.4	5546.8	5755.2	4100.5
45°	4454.5	4667.1	3547.3	2609.1	2372.5	2609.1	3547.3	4667.1	4454.5	4647.7	3393.5
47.5°	3636.7	3768.9	2920.2	2254.8	2072.3	2254.8	2920.2	3768.9	3636.7	3698.0	2834.2
50°	2969.7	3041.8	2455.0	1954.1	1813.2	1954.1	2455.0	3041.8	2969.7	3007.4	2374.1
52.5°	2464.3	2500.0	2059.1	1715.1	1611.7	1715.1	2059.1	2500.0	2464.3	2470.1	2023.1
55°	2039.4	2047.9	1757.8	1508.0	1435.9	1508.0	1757.8	2047.9	2039.4	2040.9	1728.3
57.5°	1707.8	1720.2	1510.6	1341.7	1282.1	1341.7	1510.6	1720.2	1707.8	1710.5	1496.7
60°	1445.6	1453.7	1305.3	1191.9	1152.0	1191.9	1305.3	1453.7	1445.6	1442.1	1297.2
62.5°	1230.6	1246.1	1140.8	1062.1	1036.5	1062.1	1140.8	1246.1	1230.6	1234.0	1140.3
65°	1054.7	1064.8	999.7	944.4	935.4	944.4	999.7	1064.8	1054.7	1063.3	1002.8
67.5°	910.3	921.9	878.1	845.6	836.7	845.6	878.1	921.9	910.3	917.2	878.8
70°	788.3	788.3	764.7	746.5	746.8	746.5	764.7	788.3	788.3	789.4	768.8
72.5°	668.6	672.8	657.0	651.5	653.8	651.5	672.8	668.6	668.6	683.3	661.6
75°	559.3	564.0	555.8	552.7	559.3	552.7	555.8	564.0	559.3	567.0	557.4
77.5°	446.6	455.2	454.0	457.9	470.2	457.9	454.0	455.2	446.6	458.2	460.6
80°	342.4	349.8	350.2	359.8	377.3	359.8	350.2	349.8	342.4	349.8	355.6
82.5°	240.9	245.6	248.6	265.0	280.0	265.0	248.6	245.6	240.9	245.2	252.9
85°	143.4	139.5	144.8	155.0	170.9	155.0	144.8	139.5	143.4	143.4	147.2
87.5°	45.7	44.5	44.1	53.8	61.6	53.8	44.1	44.5	45.7	47.3	49.2
90°	26.0	46.1	72.1	42.1	26.8	42.1	72.1	46.1	26.0	44.0	76.1
92.5°	34.0	60.0	116.1	64.1	38.4	64.1	116.1	60.0	34.0	60.0	108.1
95°	50.1	80.1	162.1	74.1	44.8	74.1	162.1	80.1	50.1	74.1	138.2
97.5°	78.0	98.1	186.2	82.0	56.8	82.0	186.2	98.1	78.0	92.1	156.2
100°	104.2	120.1	290.3	96.1	74.8	96.1	290.3	120.1	104.2	104.2	286.3
102.5°	158.1	226.2	616.7	204.2	126.9	204.2	616.7	226.2	158.1	204.2	664.7
105°	288.3	474.5	1099.1	430.5	219.0	430.5	1099.1	474.5	288.3	468.5	1171.2
107.5°	546.6	840.8	1449.5	770.8	379.2	770.8	1449.5	840.8	546.6	874.9	1509.5
110°	874.9	1155.2	1519.6	1023.0	707.5	1023.0	1519.6	1155.2	874.9	1223.3	1647.7



TEST NUMBER:

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	1139.2	1275.3	1455.5	1099.1	955.8	1099.1	1455.5	1275.3	1139.2	1363.4	1609.7
115°	1237.3	1245.3	1299.4	1057.1	1005.8	1057.1	1299.4	1245.3	1237.3	1343.4	1437.5
117.5°	1195.2	1119.2	1103.1	965.0	972.2	965.0	1103.1	1119.2	1195.2	1229.3	1241.3
120°	1079.2	977.1	920.9	858.9	899.7	858.9	920.9	977.1	1079.2	1065.1	1045.1
122.5°	933.0	830.9	788.8	761.1	810.1	761.1	788.8	830.9	933.0	902.9	882.9
125°	790.9	704.7	694.7	677.0	725.9	677.0	694.7	704.7	790.9	760.8	769.2
127.5°	670.7	616.7	628.6	619.0	651.9	619.0	628.6	616.7	670.7	656.7	687.1
130°	585.0	558.6	587.0	573.4	601.9	573.4	587.0	558.6	585.0	589.0	629.4
132.5°	531.3	523.3	557.7	541.8	560.2	541.8	557.7	523.3	531.3	547.8	585.8
135°	498.1	499.8	532.1	514.1	530.5	514.1	532.1	499.8	498.1	522.2	556.2
137.5°	478.5	484.4	508.5	490.5	504.5	490.5	508.5	484.4	478.5	502.5	528.5
140°	466.8	470.8	488.8	468.8	481.2	468.8	488.8	470.8	466.8	490.9	502.8
142.5°	455.2	459.2	471.2	447.6	455.5	447.6	471.2	459.2	455.2	477.6	483.6
145°	449.5	451.5	457.5	431.9	438.0	431.9	457.5	451.5	449.5	466.0	462.0
147.5°	440.0	440.0	442.0	418.8	423.1	418.8	442.0	440.0	440.0	452.0	446.3
150°	428.3	426.4	428.3	405.1	409.5	405.1	428.3	426.4	428.3	436.3	428.7
152.5°	412.3	410.3	412.7	391.4	395.8	391.4	412.7	410.3	412.3	420.3	413.1
155°	398.3	398.3	399.1	381.8	386.2	381.8	399.1	398.3	398.3	402.7	399.4
157.5°	389.0	389.0	389.8	376.6	379.4	376.6	389.8	389.0	389.0	391.4	390.2
160°	379.8	381.8	382.6	371.4	374.1	371.4	382.6	381.8	379.8	384.3	383.0
162.5°	376.2	376.6	379.0	366.1	369.0	366.1	379.0	376.6	376.2	376.6	375.4
165°	371.0	372.9	373.7	364.6	365.3	364.6	373.7	372.9	371.0	372.9	370.1
167.5°	369.3	371.4	372.1	363.3	365.7	363.3	372.1	371.4	369.3	367.4	368.6
170°	365.3	367.7	370.5	363.7	364.0	363.7	370.5	367.7	365.3	365.7	365.0
172.5°	366.1	368.6	371.3	364.4	364.9	364.4	371.3	368.6	366.1	366.5	363.7
175°	366.9	367.3	368.4	363.3	364.0	363.3	368.4	367.3	366.9	365.3	364.4
177.5°	365.3	367.7	368.9	365.6	366.3	365.6	368.9	367.7	365.3	365.7	366.9
180°	366.9	366.9	366.9	366.9	366.9	366.9	366.9	366.9	366.9	366.9	366.9



TEST NUMBER:

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	18493.7	18493.7	18493.7	18493.7	18493.7	18493.7
2.5°	18493.4	18500.3	18493.4	18501.5	18496.5	18484.8
5°	18443.4	18440.3	18443.4	18451.6	18430.6	18419.0
7.5°	18249.8	18237.3	18249.8	18333.0	18318.3	18304.0
10°	17845.3	17760.1	17845.3	18063.0	18137.4	18114.2
12.5°	17140.4	16876.2	17140.4	17599.7	17853.1	17832.6
15°	16111.2	15657.6	16111.2	17006.3	17471.5	17496.7
17.5°	14779.5	14260.5	14779.5	16102.7	16985.9	16973.8
20°	13331.2	12573.6	13331.2	15076.3	16347.9	16415.3
22.5°	11749.7	10934.0	11749.7	13826.2	15592.2	15704.5
25°	10172.0	9321.4	10172.0	12437.7	14668.4	14796.1
27.5°	8697.4	7887.9	8697.4	11110.2	13636.9	13776.3
30°	7332.0	6551.2	7332.0	9741.8	12503.1	12519.0
32.5°	6190.1	5416.3	6190.1	8377.9	11294.6	11220.6
35°	5079.3	4437.4	5079.3	7126.4	9912.9	9817.2
37.5°	4241.8	3727.4	4241.8	6025.5	8509.9	8329.4
40°	3538.0	3125.9	3538.0	4975.0	7126.4	6832.3
42.5°	2957.7	2649.5	2957.7	4100.5	5755.2	5546.8
45°	2522.0	2290.4	2522.0	3393.5	4647.7	4454.5
47.5°	2200.9	2012.6	2200.9	2834.2	3698.0	3636.7
50°	1915.0	1785.7	1915.0	2374.1	3007.4	2969.7
52.5°	1684.6	1590.8	1684.6	2023.1	2470.1	2464.3
55°	1492.8	1416.5	1492.8	1728.3	2040.9	2039.4
57.5°	1325.8	1276.7	1325.8	1496.7	1710.5	1707.8
60°	1177.1	1160.1	1177.1	1297.2	1442.1	1445.6
62.5°	1063.3	1038.1	1063.3	1140.3	1234.0	1230.6
65°	950.1	944.4	950.1	1002.8	1063.3	1054.7
67.5°	847.9	842.9	847.9	878.8	917.2	910.3
70°	750.3	754.2	750.3	768.8	789.4	788.3
72.5°	655.8	656.5	655.8	661.6	683.3	668.6
75°	564.7	564.7	564.7	557.4	567.0	559.3
77.5°	465.6	477.2	465.6	460.6	458.2	446.6
80°	366.1	377.3	366.1	355.6	349.8	342.4
82.5°	265.4	283.6	265.4	252.9	245.2	240.9
85°	164.6	175.9	164.6	147.2	143.4	143.4
87.5°	62.0	67.8	62.0	49.2	47.3	45.7
90°	40.0	26.4	40.0	76.1	44.0	26.0
92.5°	54.1	36.4	54.1	108.1	60.0	34.0
95°	60.0	44.4	60.0	138.2	74.1	50.1
97.5°	64.1	54.4	64.1	156.2	92.1	78.0
100°	74.1	62.8	74.1	286.3	104.2	104.2
102.5°	150.1	76.8	150.1	664.7	204.2	158.1
105°	392.4	142.9	392.4	1171.2	468.5	288.3
107.5°	776.8	337.1	776.8	1509.5	874.9	546.6
110°	1065.1	685.5	1065.1	1647.7	1223.3	874.9



TEST NUMBER:

CATALOG NUMBER: EHBR1-24-UNV-TA-L950-UPL40

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1181.3	949.7	1181.3	1609.7	1363.4	1139.2
115°	1177.2	1053.8	1177.2	1437.5	1343.4	1237.3
117.5°	1105.2	1059.8	1105.2	1241.3	1229.3	1195.2
120°	999.4	999.8	999.4	1045.1	1065.1	1079.2
122.5°	891.3	918.2	891.3	882.9	902.9	933.0
125°	799.2	826.1	799.2	769.2	760.8	790.9
127.5°	721.5	743.9	721.5	687.1	656.7	670.7
130°	657.4	671.9	657.4	629.4	589.0	585.0
132.5°	610.2	618.2	610.2	585.8	547.8	531.3
135°	572.1	574.6	572.1	556.2	522.2	498.1
137.5°	540.6	536.8	540.6	528.5	502.5	478.5
140°	517.2	513.2	517.2	502.8	490.9	466.8
142.5°	493.5	490.0	493.5	483.6	477.6	455.2
145°	476.4	470.4	476.4	462.0	466.0	449.5
147.5°	458.7	453.1	458.7	446.3	452.0	440.0
150°	443.5	441.9	443.5	428.7	436.3	428.3
152.5°	429.4	428.3	429.4	413.1	420.3	412.3
155°	416.2	416.6	416.2	399.4	402.7	398.3
157.5°	405.0	405.4	405.0	390.2	391.4	389.0
160°	395.7	396.1	395.7	383.0	384.3	379.8
162.5°	388.6	388.9	388.6	375.4	376.6	376.2
165°	378.9	381.3	378.9	370.1	372.9	371.0
167.5°	375.3	377.7	375.3	368.6	367.4	369.3
170°	371.6	374.1	371.6	365.0	365.7	365.3
172.5°	368.4	372.9	368.4	363.7	366.5	366.1
175°	367.3	372.0	367.3	364.4	365.3	366.9
177.5°	369.6	376.4	369.6	366.9	365.7	365.3
180°	366.9	366.9	366.9	366.9	366.9	366.9



TEST NUMBER: CATALOG
 CATALOG NUMBER: EHBR1-24-UNV-TA-L950-UPL40

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	17.70	18.76	18.29	19.34	19.98	15.97	17.03	16.56	17.60	18.25
	3H	18.86	19.80	19.46	20.39	21.07	17.57	18.51	18.17	19.10	19.78
	4H	19.31	20.19	19.93	20.79	21.49	18.21	19.10	18.83	19.70	20.39
	6H	19.62	20.43	20.25	21.05	21.75	18.72	19.53	19.35	20.15	20.85
	8H	19.70	20.47	20.35	21.10	21.82	18.89	19.66	19.53	20.29	21.00
	12H	19.73	20.47	20.38	21.09	21.83	18.98	19.71	19.62	20.33	21.07
4H	2H	17.95	18.83	18.57	19.43	20.13	16.51	17.39	17.13	17.99	18.69
	3H	19.34	20.07	19.97	20.71	21.42	18.31	19.03	18.94	19.68	20.39
	4H	19.92	20.58	20.57	21.23	21.97	19.07	19.73	19.72	20.38	21.12
	6H	20.36	20.92	21.03	21.60	22.36	19.70	20.26	20.37	20.93	21.70
	8H	20.48	21.01	21.16	21.68	22.45	19.90	20.43	20.58	21.10	21.87
	12H	20.54	21.00	21.23	21.70	22.47	20.02	20.49	20.72	21.19	21.96
8H	4H	20.08	20.60	20.75	21.27	22.04	19.31	19.84	19.99	20.51	21.27
	6H	20.62	21.05	21.33	21.77	22.54	20.05	20.48	20.76	21.19	21.97
	8H	20.80	21.18	21.52	21.91	22.69	20.33	20.71	21.05	21.43	22.22
	12H	20.91	21.25	21.63	21.95	22.81	20.51	20.85	21.23	21.55	22.41
12H	4H	20.07	20.53	20.76	21.23	22.00	19.31	19.77	20.00	20.47	21.24
	6H	20.64	21.02	21.36	21.74	22.53	20.08	20.46	20.80	21.18	21.97
	8H	20.85	21.19	21.57	21.90	22.75	20.39	20.73	21.11	21.44	22.29

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-8

Test Date: 08/04/2025

Luminaire Tested: EHBR-60-L950-N

Data in this report applies to families of products including EHBR-60-L950-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-8
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/05/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **EHBR-60-L950-N**
 Description: Elevate Round Highbay at, 60000 lumens, 5000K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 4901
 CIE u': 0.2131
 CIE v': 0.4853
 Duv: -0.0008
 CIE x: 0.3477
 CIE y: 0.3520
 CIE z: 0.3003
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 574
 Purity: 9.953987
 Rf: 90.7
 Rg: 100.5

CRI (Ra):	94.3		
R1:	95.8	R9:	72.3
R2:	96.5	R10:	89.1
R3:	94.4	R11:	94.9
R4:	95.3	R12:	68.4
R5:	94.1	R13:	96.4
R6:	92.5	R14:	96.4
R7:	95.5	R15:	93.9
R8:	90.1		



Test Conditions

Stabilization Time: 35M
 Operation Time: 1H 35M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-8

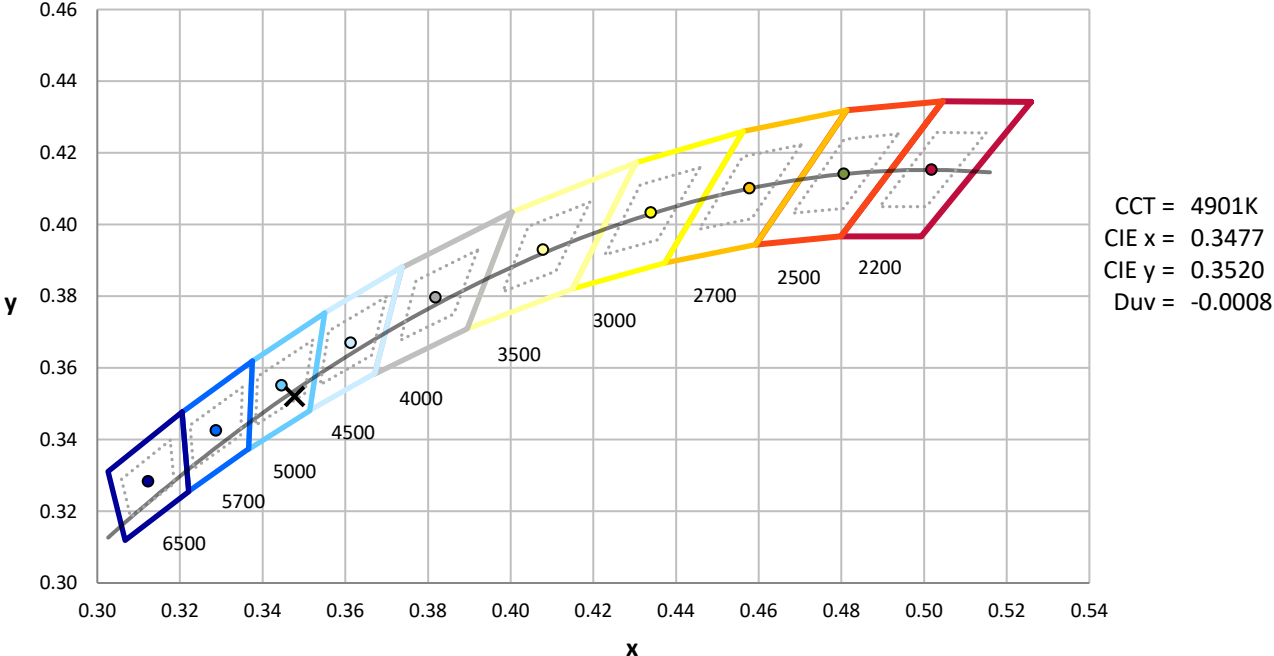
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	10/22/2024	10/22/2025
Sphere Thermometer	ONSET IN0085	10/22/2024	10/22/2025
Room Thermometer	ONSET IN0046	10/22/2024	10/22/2025

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CIE 1931 Chromaticity Diagram



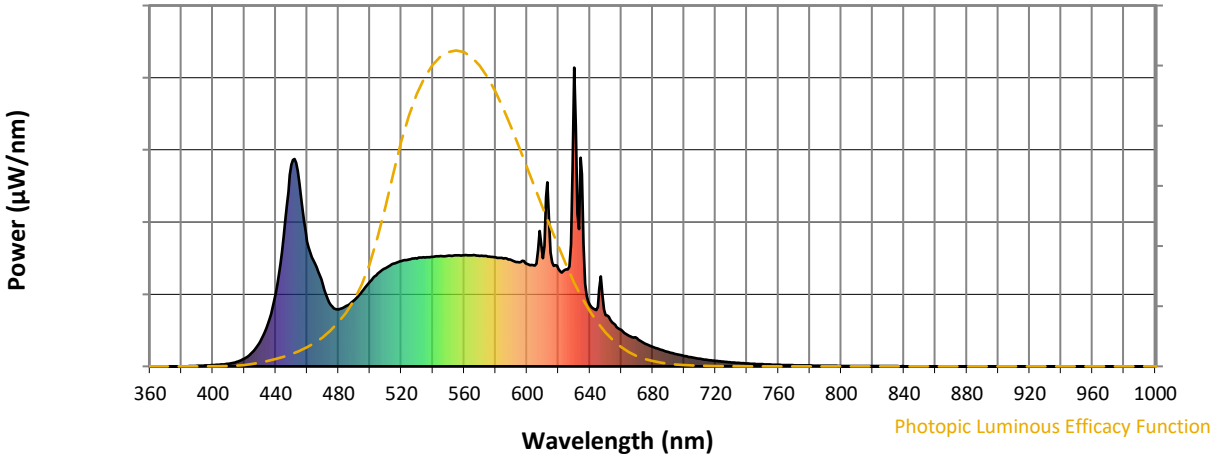
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 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	221	NR	620	326	NR	750	7	NR	880	0	NR
365	0	NR	495	250	NR	625	325	NR	755	6	NR	885	0	NR
370	0	NR	500	284	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	311	NR	635	643	NR	765	4	NR	895	0	NR
380	0	NR	510	329	NR	640	206	NR	770	4	NR	900	0	NR
385	1	NR	515	344	NR	645	199	NR	775	3	NR	905	0	NR
390	2	NR	520	353	NR	650	172	NR	780	3	NR	910	0	NR
395	3	NR	525	357	NR	655	143	NR	785	2	NR	915	0	NR
400	5	NR	530	362	NR	660	122	NR	790	2	NR	920	0	NR
405	6	NR	535	365	NR	665	102	NR	795	2	NR	925	0	NR
410	9	NR	540	367	NR	670	94	NR	800	2	NR	930	0	NR
415	15	NR	545	369	NR	675	76	NR	805	1	NR	935	0	NR
420	26	NR	550	370	NR	680	65	NR	810	1	NR	940	0	NR
425	47	NR	555	372	NR	685	56	NR	815	1	NR	945	0	NR
430	81	NR	560	372	NR	690	48	NR	820	1	NR	950	0	NR
435	143	NR	565	371	NR	695	41	NR	825	1	NR	955	0	NR
440	243	NR	570	370	NR	700	35	NR	830	1	NR	960	0	NR
445	434	NR	575	367	NR	705	30	NR	835	1	NR	965	0	NR
450	675	NR	580	365	NR	710	25	NR	840	1	NR	970	0	NR
455	615	NR	585	361	NR	715	22	NR	845	0	NR	975	0	NR
460	418	NR	590	356	NR	720	19	NR	850	0	NR	980	0	NR
465	344	NR	595	348	NR	725	16	NR	855	0	NR	985	0	NR
470	272	NR	600	343	NR	730	13	NR	860	0	NR	990	0	NR
475	206	NR	605	337	NR	735	11	NR	865	0	NR	995	0	NR
480	190	NR	610	362	NR	740	10	NR	870	0	NR	1000	0	NR
485	202	NR	615	381	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-8

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 2.04

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	221	NR	620	326	NR	750	7	NR	880	0	NR
365	0	NR	495	250	NR	625	325	NR	755	6	NR	885	0	NR
370	0	NR	500	284	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	311	NR	635	643	NR	765	4	NR	895	0	NR
380	0	NR	510	329	NR	640	206	NR	770	4	NR	900	0	NR
385	1	NR	515	344	NR	645	199	NR	775	3	NR	905	0	NR
390	2	NR	520	353	NR	650	172	NR	780	3	NR	910	0	NR
395	3	NR	525	357	NR	655	143	NR	785	2	NR	915	0	NR
400	5	NR	530	362	NR	660	122	NR	790	2	NR	920	0	NR
405	6	NR	535	365	NR	665	102	NR	795	2	NR	925	0	NR
410	9	NR	540	367	NR	670	94	NR	800	2	NR	930	0	NR
415	15	NR	545	369	NR	675	76	NR	805	1	NR	935	0	NR
420	26	NR	550	370	NR	680	65	NR	810	1	NR	940	0	NR
425	47	NR	555	372	NR	685	56	NR	815	1	NR	945	0	NR
430	81	NR	560	372	NR	690	48	NR	820	1	NR	950	0	NR
435	143	NR	565	371	NR	695	41	NR	825	1	NR	955	0	NR
440	243	NR	570	370	NR	700	35	NR	830	1	NR	960	0	NR
445	434	NR	575	367	NR	705	30	NR	835	1	NR	965	0	NR
450	675	NR	580	365	NR	710	25	NR	840	1	NR	970	0	NR
455	615	NR	585	361	NR	715	22	NR	845	0	NR	975	0	NR
460	418	NR	590	356	NR	720	19	NR	850	0	NR	980	0	NR
465	344	NR	595	348	NR	725	16	NR	855	0	NR	985	0	NR
470	272	NR	600	343	NR	730	13	NR	860	0	NR	990	0	NR
475	206	NR	605	337	NR	735	11	NR	865	0	NR	995	0	NR
480	190	NR	610	362	NR	740	10	NR	870	0	NR	1000	0	NR
485	202	NR	615	381	NR	745	8	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-8

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 4.41

λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)	λ (nm)	Power W ² /nm	Lumens (φ/nm)
360	0	NR	490	221	NR	620	326	NR	750	7	NR	880	0	NR
365	0	NR	495	250	NR	625	325	NR	755	6	NR	885	0	NR
370	0	NR	500	284	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	311	NR	635	643	NR	765	4	NR	895	0	NR
380	0	NR	510	329	NR	640	206	NR	770	4	NR	900	0	NR
385	1	NR	515	344	NR	645	199	NR	775	3	NR	905	0	NR
390	2	NR	520	353	NR	650	172	NR	780	3	NR	910	0	NR
395	3	NR	525	357	NR	655	143	NR	785	2	NR	915	0	NR
400	5	NR	530	362	NR	660	122	NR	790	2	NR	920	0	NR
405	6	NR	535	365	NR	665	102	NR	795	2	NR	925	0	NR
410	9	NR	540	367	NR	670	94	NR	800	2	NR	930	0	NR
415	15	NR	545	369	NR	675	76	NR	805	1	NR	935	0	NR
420	26	NR	550	370	NR	680	65	NR	810	1	NR	940	0	NR
425	47	NR	555	372	NR	685	56	NR	815	1	NR	945	0	NR
430	81	NR	560	372	NR	690	48	NR	820	1	NR	950	0	NR
435	143	NR	565	371	NR	695	41	NR	825	1	NR	955	0	NR
440	243	NR	570	370	NR	700	35	NR	830	1	NR	960	0	NR
445	434	NR	575	367	NR	705	30	NR	835	1	NR	965	0	NR
450	675	NR	580	365	NR	710	25	NR	840	1	NR	970	0	NR
455	615	NR	585	361	NR	715	22	NR	845	0	NR	975	0	NR
460	418	NR	590	356	NR	720	19	NR	850	0	NR	980	0	NR
465	344	NR	595	348	NR	725	16	NR	855	0	NR	985	0	NR
470	272	NR	600	343	NR	730	13	NR	860	0	NR	990	0	NR
475	206	NR	605	337	NR	735	11	NR	865	0	NR	995	0	NR
480	190	NR	610	362	NR	740	10	NR	870	0	NR	1000	0	NR
485	202	NR	615	381	NR	745	8	NR	875	0	NR			

Summary

$R_f = 90.7$
 $R_g = 100.5$
 CIE $R_a = 94.3$
 $R_9 = 72.3$

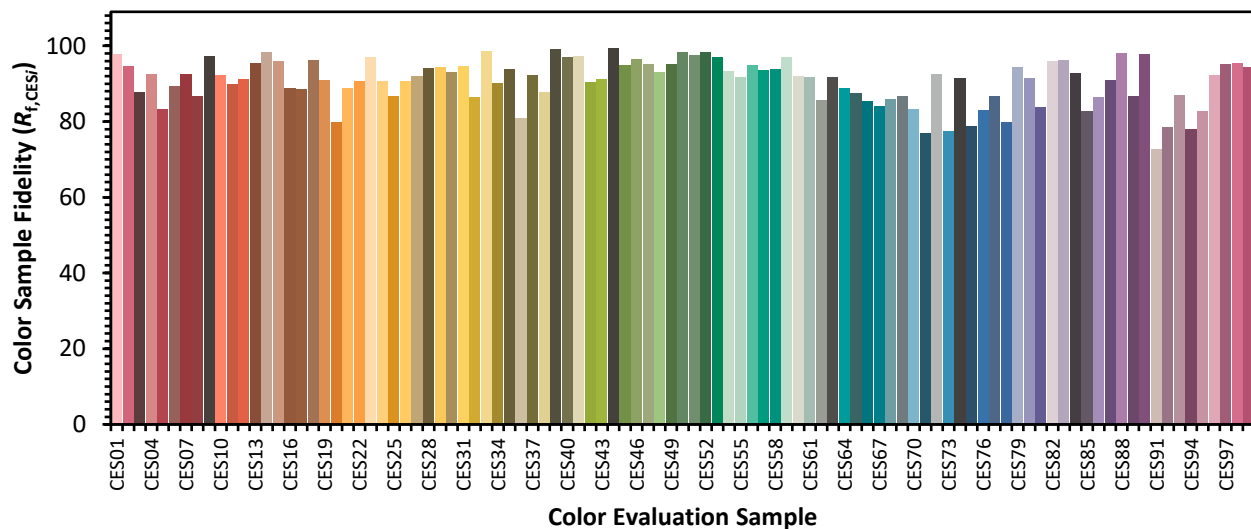


Color Vector Graphics

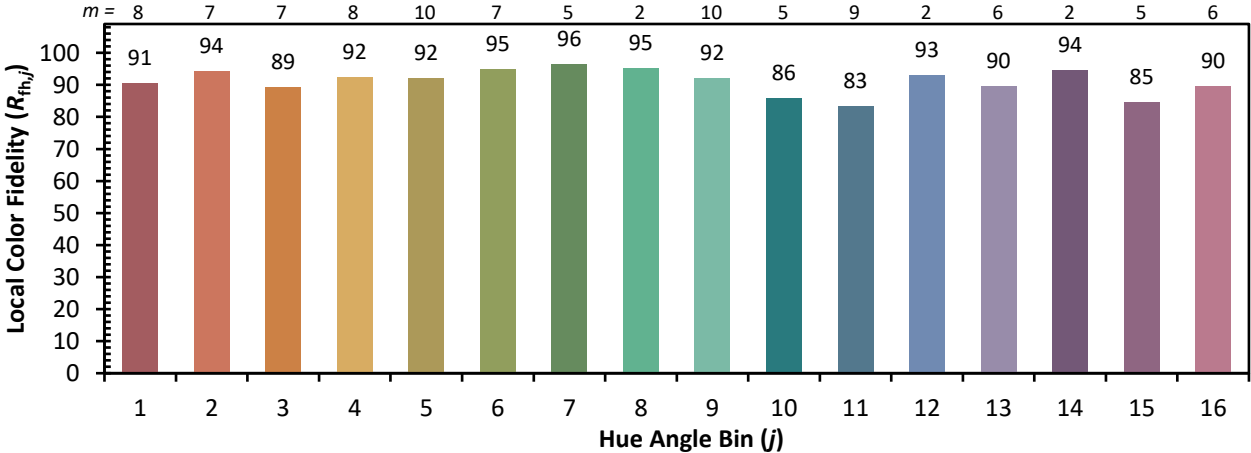


Individual Sample Fidelity Index ($R_{f,i}$)

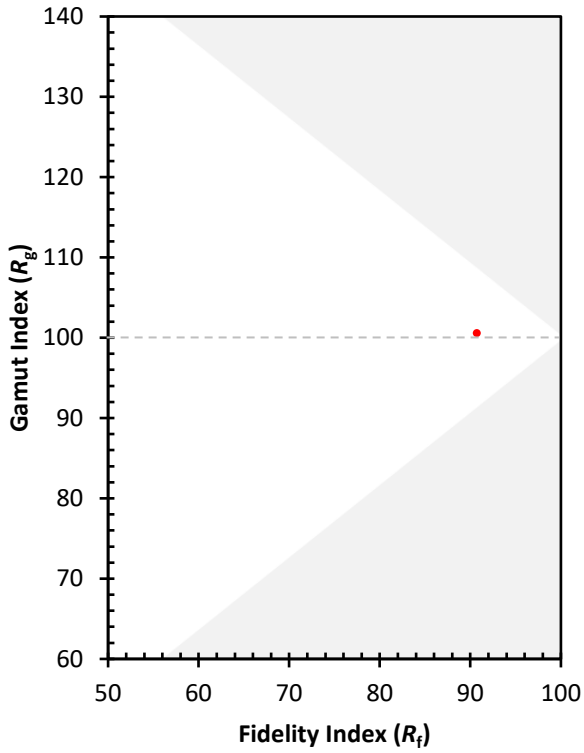
CES01 = 85	CES26 = 91	CES51 = 98	CES76 = 83
CES02 = 61	CES27 = 92	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 94	CES53 = 97	CES78 = 80
CES04 = 69	CES29 = 94	CES54 = 93	CES79 = 94
CES05 = 48	CES30 = 93	CES55 = 92	CES80 = 91
CES06 = 50	CES31 = 95	CES56 = 95	CES81 = 84
CES07 = 41	CES32 = 86	CES57 = 94	CES82 = 96
CES08 = 40	CES33 = 99	CES58 = 94	CES83 = 96
CES09 = 29	CES34 = 90	CES59 = 97	CES84 = 93
CES10 = 73	CES35 = 94	CES60 = 92	CES85 = 83
CES11 = 56	CES36 = 81	CES61 = 92	CES86 = 86
CES12 = 62	CES37 = 92	CES62 = 86	CES87 = 91
CES13 = 43	CES38 = 88	CES63 = 92	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 89	CES89 = 87
CES15 = 71	CES40 = 97	CES65 = 88	CES90 = 98
CES16 = 47	CES41 = 97	CES66 = 85	CES91 = 73
CES17 = 48	CES42 = 90	CES67 = 84	CES92 = 79
CES18 = 56	CES43 = 91	CES68 = 86	CES93 = 87
CES19 = 70	CES44 = 99	CES69 = 87	CES94 = 78
CES20 = 65	CES45 = 95	CES70 = 83	CES95 = 83
CES21 = 85	CES46 = 97	CES71 = 77	CES96 = 92
CES22 = 77	CES47 = 95	CES72 = 92	CES97 = 95
CES23 = 91	CES48 = 93	CES73 = 77	CES98 = 95
CES24 = 90	CES49 = 95	CES74 = 92	CES99 = 94
CES25 = 70	CES50 = 98	CES75 = 79	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)