

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: P1433963

Luminaire Tested: EHBR1-60-UNV-TASM-L940-UPL12

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433963
REPORT IS A COMBINATION OF REPORTS P1431900 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-60-UNV-TASM-L940-UPL12
Description: Elevate Round Highbay at, 60000 lumens, 4000K 90CRI LEDs with TASM lens
Light Source: -
Ballast/Driver: -

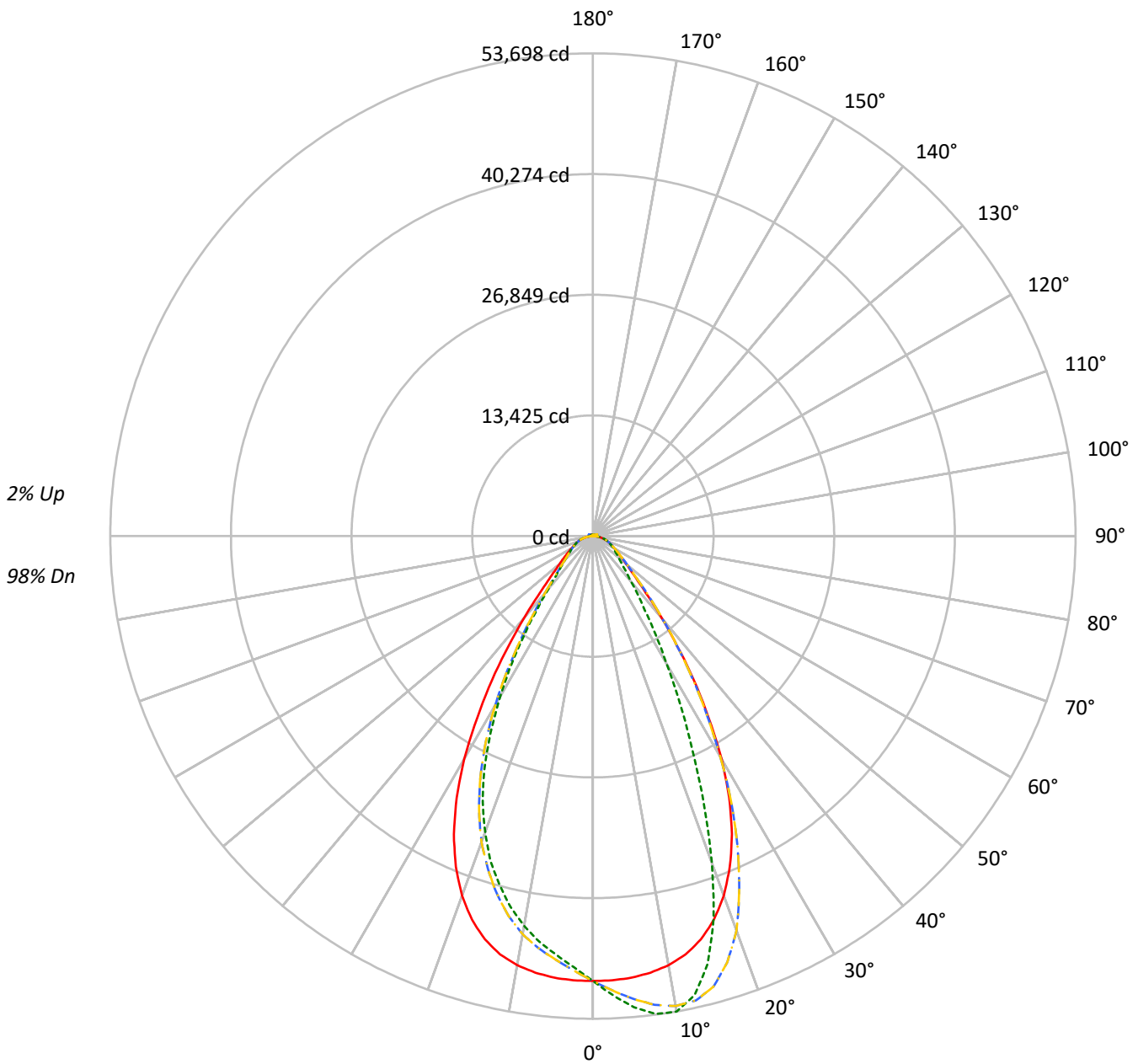
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 56460.6 lumens
Efficiency: N/A
Efficacy: 167.1 lumens/watt
Spacing Criteria (0/90/45): 0.99 / 0.84 / 0.9
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Direct

Input Watts (W): 337.8
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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Luminous Intensity Polar Plot



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



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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	0
RCR																					
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	100	100	100	98
1	111	108	105	102	109	106	103	100	101	99	97	97	95	94	93	92	90	90	90	90	88
2	104	99	94	89	102	97	92	88	93	89	86	90	86	84	86	84	82	82	82	82	80
3	98	90	84	80	96	89	83	79	86	81	77	83	79	76	80	77	74	74	74	74	72
4	92	83	77	72	90	82	76	71	79	74	70	77	73	69	75	71	68	68	68	68	66
5	87	77	70	65	85	76	70	65	74	68	64	72	67	63	70	66	62	62	62	62	61
6	82	72	65	60	80	71	64	59	69	63	59	67	62	58	66	61	58	58	58	58	56
7	77	67	60	55	76	66	59	55	64	59	54	63	58	54	62	57	54	54	54	54	52
8	73	62	56	51	72	62	55	51	60	55	51	59	54	50	58	53	50	50	50	50	48
9	69	59	52	48	68	58	52	47	57	51	47	56	51	47	55	50	47	47	47	47	45
10	66	55	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	44	44	44	42

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	232397	232397	232397	232397
5°	230982	246415	230982	218995
10°	228142	252741	228142	207261
15°	221406	234875	221406	191453
20°	207071	188338	207071	170531
25°	183274	130491	183274	142912
30°	148811	84894	148811	106927
35°	106733	54979	106733	71184
40°	69006	37895	69006	44892
45°	43784	29354	43784	31986
50°	32515	24943	32515	26643
55°	26547	22722	26547	23518
60°	22987	21644	22987	21775
65°	20955	20874	20955	20785
70°	19861	20453	19861	20188
75°	18574	19786	18574	19193
80°	16315	18680	16315	17463
85°	10559	13337	10559	12715

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 61558 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4705.5	8.3
10°-20°	12801.5	22.7
20°-30°	15013.6	26.6
30°-40°	10441.0	18.5
40°-50°	5188.7	9.2
50°-60°	3103.4	5.5
60°-70°	2184.3	3.9
70°-80°	1407.0	2.5
80°-90°	448.9	0.8
90°-100°	32.2	0.1
100°-110°	199.5	0.4
110°-120°	366.4	0.6
120°-130°	219.5	0.4
130°-140°	135.2	0.2
140°-150°	95.7	0.2
150°-160°	64.9	0.1
160°-170°	39.6	0.1
170°-180°	13.7	0.0
0°-30°	32520.6	57.6
0°-40°	42961.6	76.1
0°-60°	51253.7	90.8
0°-90°	55293.9	97.9
90°-120°	598.1	1.1
90°-150°	1048.5	1.9
90°-180°	1167.0	2.1
0°-180°	56460.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	49487	49487	49487	49487	49487	
5°	49318	52614	49318	46759	49318	4680
15°	46450	49276	46450	40166	46450	12981
25°	36600	26059	36600	28539	36600	16570
35°	19589	10091	19589	13065	19589	12229
45°	7084	4749	7084	5175	7084	5797
55°	3588	3071	3588	3178	3588	3281
65°	2187	2179	2187	2170	2187	2197
75°	1308	1394	1308	1352	1308	1373
85°	363	458	363	437	363	403
90°	9	16	9	9	9	21
95°	18	21	18	15	18	18
105°	92	53	92	70	92	124
115°	390	338	390	316	390	355
125°	251	267	251	229	251	231
135°	163	189	163	169	163	129
145°	151	158	151	146	151	94
155°	138	145	138	136	138	65
165°	139	147	139	137	139	39
175°	144	152	144	142	144	14
180°	146	146	146	146	146	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2
2.5°	49458.4	50097.8	50615.6	50957.0	51125.9	50957.0	50615.6	50097.8	49458.4	48822.7	48385.7
5°	49318.3	50598.8	51683.6	52393.5	52613.5	52393.5	51683.6	50598.8	49318.3	48108.2	47305.5
7.5°	48983.2	50978.4	52590.3	53418.9	53621.3	53418.9	52590.3	50978.4	48983.2	47270.2	46256.0
10°	48472.0	51217.8	53080.3	53674.1	53698.2	53674.1	53080.3	51217.8	48472.0	46164.2	44968.0
12.5°	47656.3	51132.5	52916.0	52721.1	52278.5	52721.1	52916.0	51132.5	47656.3	44813.0	43304.1
15°	46449.9	50626.7	51875.7	50289.9	49275.6	50289.9	51875.7	50626.7	46449.9	42988.7	41238.6
17.5°	44749.9	49680.2	49704.3	46566.8	44653.4	46566.8	49704.3	49680.2	44749.9	40757.8	38830.4
20°	42559.0	48162.0	46714.4	40975.9	38708.9	40975.9	46714.4	48162.0	42559.0	38120.6	36229.4
22.5°	39812.2	46115.0	42550.7	35351.6	32258.6	35351.6	42550.7	46115.0	39812.2	35053.6	33085.5
25°	36599.6	43606.7	38071.4	29223.3	26059.0	29223.3	38071.4	43606.7	36599.6	31399.4	29619.5
27.5°	32821.0	40427.5	33301.7	23880.1	20960.7	23880.1	33301.7	40427.5	32821.0	27626.3	25808.5
30°	28623.8	36351.9	28338.1	19017.6	16329.3	19017.6	28338.1	36351.9	28623.8	23387.4	21759.7
32.5°	23924.7	32357.0	23571.1	15238.0	12960.8	15238.0	23571.1	32357.0	23924.7	19342.4	17641.5
35°	19589.3	27359.0	19272.8	11973.4	10090.7	11973.4	19272.8	27359.0	19589.3	15523.8	13853.5
37.5°	15373.5	22636.7	15363.3	9641.5	8184.6	9641.5	15363.3	22636.7	15373.5	12069.0	10713.3
40°	11960.5	17699.9	12037.5	7696.5	6568.1	7696.5	12037.5	17699.9	11960.5	9183.0	8315.4
42.5°	9062.5	13534.3	9461.5	6316.7	5578.9	6316.7	9461.5	13534.3	9062.5	7235.3	6585.7
45°	7084.0	9959.8	7388.4	5329.3	4749.3	5329.3	7388.4	9959.8	7084.0	5826.7	5390.5
47.5°	5769.1	7697.4	5988.2	4571.1	4164.6	4571.1	5988.2	7697.4	5769.1	4928.4	4601.8
50°	4845.8	5906.4	4972.0	3990.2	3717.4	3990.2	4972.0	5906.4	4845.8	4220.4	4002.3
52.5°	4162.8	4817.1	4234.2	3555.9	3372.2	3555.9	4234.2	4817.1	4162.8	3692.4	3556.8
55°	3587.5	4049.6	3682.1	3197.8	3070.6	3197.8	3682.1	4049.6	3587.5	3285.9	3185.7
57.5°	3150.5	3435.4	3197.8	2892.5	2808.0	2892.5	3197.8	3435.4	3150.5	2924.0	2870.2
60°	2763.4	2975.0	2822.0	2626.1	2602.0	2626.1	2822.0	2975.0	2763.4	2630.8	2595.5
62.5°	2465.6	2599.2	2495.3	2386.7	2365.4	2386.7	2495.3	2599.2	2465.6	2363.5	2370.0
65°	2187.2	2311.5	2229.9	2171.4	2178.8	2171.4	2229.9	2311.5	2187.2	2139.9	2150.1
67.5°	1971.9	2036.9	2001.6	1968.2	1976.6	1968.2	2001.6	2036.9	1971.9	1925.5	1941.3
70°	1742.7	1812.3	1776.1	1780.7	1794.6	1780.7	1776.1	1812.3	1742.7	1728.8	1740.9
72.5°	1523.7	1577.6	1565.4	1576.6	1591.4	1576.6	1565.4	1577.6	1523.7	1521.8	1522.8
75°	1308.4	1349.2	1354.8	1370.6	1393.8	1370.6	1354.8	1349.2	1308.4	1294.5	1311.2
77.5°	1073.6	1120.0	1137.6	1159.1	1193.3	1159.1	1137.6	1120.0	1073.6	1082.9	1091.2
80°	858.3	879.7	918.7	934.4	982.7	934.4	918.7	879.7	858.3	842.6	854.7
82.5°	628.2	647.7	681.1	710.8	738.7	710.8	681.1	647.7	628.2	620.8	621.7
85°	362.9	392.5	414.8	450.1	458.4	450.1	414.8	392.5	362.9	371.2	362.9
87.5°	127.2	136.4	155.9	169.8	170.8	169.8	155.9	136.4	127.2	129.9	117.9
90°	9.0	15.7	26.6	18.1	15.6	18.1	26.6	15.7	9.0	15.3	23.5
92.5°	11.6	20.6	36.6	22.5	18.7	22.5	36.6	20.6	11.6	19.7	37.3
95°	17.5	25.0	45.9	24.3	21.2	24.3	45.9	25.0	17.5	26.0	51.6
97.5°	26.3	30.7	51.6	25.6	24.3	25.6	51.6	30.7	26.3	31.6	59.2
100°	34.4	34.4	92.2	28.7	26.8	28.7	92.2	34.4	34.4	39.4	91.7
102.5°	51.3	66.6	211.5	53.5	31.2	53.5	211.5	66.6	51.3	72.6	193.7
105°	92.0	149.2	369.8	129.1	52.8	129.1	369.8	149.2	92.0	150.2	344.4
107.5°	172.7	276.2	475.5	249.3	113.5	249.3	475.5	276.2	172.7	264.7	454.8
110°	275.3	385.1	518.6	339.4	222.4	339.4	518.6	385.1	275.3	362.9	476.8



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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°	357.8	428.9	506.8	375.7	304.9	375.7	506.8	428.9	357.8	400.4	456.8
115°	389.5	422.7	453.0	374.4	337.5	374.4	453.0	422.7	389.5	391.0	408.0
117.5°	376.4	387.0	391.7	351.9	339.4	351.9	391.7	387.0	376.4	352.5	346.7
120°	340.1	335.7	331.3	318.7	320.6	318.7	331.3	335.7	340.1	308.1	289.6
122.5°	295.3	285.9	280.6	285.9	295.0	285.9	280.6	285.9	295.3	263.4	249.3
125°	250.9	241.5	245.9	257.1	267.1	257.1	245.9	241.5	250.9	224.9	220.9
127.5°	214.3	209.9	220.2	232.7	241.5	232.7	220.2	209.9	214.3	197.4	200.2
130°	188.3	188.7	202.1	213.6	218.9	213.6	202.1	188.7	188.3	180.2	188.0
132.5°	172.4	176.5	189.2	199.6	203.0	199.6	189.2	176.5	172.4	170.8	180.5
135°	162.7	168.3	180.7	186.7	189.2	186.7	180.7	168.3	162.7	164.2	172.4
137.5°	157.3	162.9	172.0	177.7	177.3	177.7	172.0	162.9	157.3	160.1	166.7
140°	154.5	160.1	163.9	170.1	170.8	170.1	163.9	160.1	154.5	155.8	161.4
142.5°	151.7	156.7	158.6	163.5	163.2	163.5	158.6	156.7	151.7	152.9	156.7
145°	150.7	154.7	152.6	157.9	157.8	157.9	152.6	154.7	150.7	150.4	153.3
147.5°	147.6	150.4	148.5	153.3	153.1	153.3	148.5	150.4	147.6	147.6	149.1
150°	144.7	147.2	143.8	149.1	150.3	149.1	143.8	147.2	144.7	144.0	145.6
152.5°	140.6	143.1	140.6	146.5	146.8	146.5	140.6	143.1	140.6	139.9	141.5
155°	138.1	139.4	138.1	144.0	145.0	144.0	138.1	139.4	138.1	137.1	139.0
157.5°	136.9	138.3	137.8	143.1	144.0	143.1	137.8	138.3	136.9	136.9	137.8
160°	137.4	138.6	139.0	143.7	144.6	143.7	139.0	138.6	137.4	137.1	138.1
162.5°	138.0	138.0	139.3	143.9	145.8	143.9	139.3	138.0	138.0	138.0	138.6
165°	138.9	139.6	140.2	144.5	147.0	144.5	140.2	139.6	138.9	138.6	138.6
167.5°	140.2	139.6	141.4	146.1	148.6	146.1	141.4	139.6	140.2	139.8	139.8
170°	139.8	140.8	142.0	146.7	149.1	146.7	142.0	140.8	139.8	140.5	140.2
172.5°	142.6	142.6	144.2	148.1	151.3	148.1	144.2	142.6	142.6	142.4	143.0
175°	144.5	144.8	146.0	149.3	152.5	149.3	146.0	144.8	144.5	143.6	143.6
177.5°	143.8	145.7	147.5	150.9	154.7	150.9	147.5	145.7	143.8	143.6	143.6
180°	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	49487.2	49487.2	49487.2	49487.2	49487.2	49487.2
2.5°	48049.7	48018.2	48049.7	48385.7	48822.7	49458.4
5°	46933.4	46758.9	46933.4	47305.5	48108.2	49318.3
7.5°	45633.3	45532.1	45633.3	46256.0	47270.2	48983.2
10°	44264.6	44035.4	44264.6	44968.0	46164.2	48472.0
12.5°	42577.5	42274.1	42577.5	43304.1	44813.0	47656.3
15°	40432.1	40165.8	40432.1	41238.6	42988.7	46449.9
17.5°	38129.8	37888.6	38129.8	38830.4	40757.8	44749.9
20°	35238.3	35049.0	35238.3	36229.4	38120.6	42559.0
22.5°	32204.9	32027.6	32204.9	33085.5	35053.6	39812.2
25°	28635.9	28539.4	28635.9	29619.5	31399.4	36599.6
27.5°	24779.3	24615.0	24779.3	25808.5	27626.3	32821.0
30°	20839.2	20567.3	20839.2	21759.7	23387.4	28623.8
32.5°	16985.4	16789.6	16985.4	17641.5	19342.4	23924.7
35°	13260.6	13064.8	13260.6	13853.5	15523.8	19589.3
37.5°	10332.8	9986.7	10332.8	10713.3	12069.0	15373.5
40°	7836.6	7780.9	7836.6	8315.4	9183.0	11960.5
42.5°	6379.7	6228.4	6379.7	6585.7	7235.3	9062.5
45°	5234.6	5175.2	5234.6	5390.5	5826.7	7084.0
47.5°	4501.5	4527.5	4501.5	4601.8	4928.4	5769.1
50°	3954.9	3970.8	3954.9	4002.3	4220.4	4845.8
52.5°	3552.3	3538.3	3552.3	3556.8	3692.4	4162.8
55°	3195.9	3178.2	3195.9	3185.7	3285.9	3587.5
57.5°	2884.1	2897.0	2884.1	2870.2	2924.0	3150.5
60°	2605.7	2617.7	2605.7	2595.5	2630.8	2763.4
62.5°	2370.9	2378.4	2370.9	2370.0	2363.5	2465.6
65°	2161.2	2169.5	2161.2	2150.1	2139.9	2187.2
67.5°	1960.7	1960.7	1960.7	1941.3	1925.5	1971.9
70°	1772.4	1771.4	1772.4	1740.9	1728.8	1742.7
72.5°	1546.0	1568.2	1546.0	1522.8	1521.8	1523.7
75°	1326.0	1352.0	1326.0	1311.2	1294.5	1308.4
77.5°	1103.3	1143.2	1103.3	1091.2	1082.9	1073.6
80°	875.1	918.7	875.1	854.7	842.6	858.3
82.5°	646.7	679.3	646.7	621.7	620.8	628.2
85°	385.1	437.0	385.1	362.9	371.2	362.9
87.5°	123.4	157.7	123.4	117.9	129.9	127.2
90°	14.1	9.0	14.1	23.5	15.3	9.0
92.5°	21.0	12.9	21.0	37.3	19.7	11.6
95°	24.0	14.7	24.0	51.6	26.0	17.5
97.5°	26.6	19.4	26.6	59.2	31.6	26.3
100°	30.9	25.0	30.9	91.7	39.4	34.4
102.5°	64.7	41.3	64.7	193.7	72.6	51.3
105°	135.5	70.1	135.5	344.4	150.2	92.0
107.5°	241.9	120.1	241.9	454.8	264.7	172.7
110°	320.7	222.8	320.7	476.8	362.9	275.3



TEST NUMBER: P1433963

CATALOG NUMBER: EHBR1-60-UNV-TASM-L940-UPL12

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	344.4	300.4	344.4	456.8	400.4	357.8
115°	331.3	316.0	331.3	408.0	391.0	389.5
117.5°	302.5	305.3	302.5	346.7	352.5	376.4
120°	269.3	282.8	269.3	289.6	308.1	340.1
122.5°	239.6	254.6	239.6	249.3	263.4	295.3
125°	213.3	229.3	213.3	220.9	224.9	250.9
127.5°	195.2	206.2	195.2	200.2	197.4	214.3
130°	181.8	190.5	181.8	188.0	180.2	188.3
132.5°	172.6	178.3	172.6	180.5	170.8	172.4
135°	164.8	168.9	164.8	172.4	164.2	162.7
137.5°	158.3	161.7	158.3	166.7	160.1	157.3
140°	153.3	156.1	153.3	161.4	155.8	154.5
142.5°	147.3	149.8	147.3	156.7	152.9	151.7
145°	144.1	146.0	144.1	153.3	150.4	150.7
147.5°	141.5	142.8	141.5	149.1	147.6	147.6
150°	139.0	140.3	139.0	145.6	144.0	144.7
152.5°	135.6	137.8	135.6	141.5	139.9	140.6
155°	134.3	136.5	134.3	139.0	137.1	138.1
157.5°	134.3	136.8	134.3	137.8	136.9	136.9
160°	135.2	136.8	135.2	138.1	137.1	137.4
162.5°	135.2	136.8	135.2	138.6	138.0	138.0
165°	136.4	137.3	136.4	138.6	138.6	138.9
167.5°	136.8	137.3	136.8	139.8	139.8	140.2
170°	137.7	138.6	137.7	140.2	140.5	139.8
172.5°	139.6	140.5	139.6	143.0	142.4	142.6
175°	140.8	141.7	140.8	143.6	143.6	144.5
177.5°	142.4	143.3	142.4	143.6	143.6	143.8
180°	145.7	145.7	145.7	145.7	145.7	145.7



TEST NUMBER: P1433963
 CATALOG NUMBER: EHBR1-60-UNV-TASM-L940-UPL12

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	19.94	21.11	20.34	21.47	21.84	19.26	20.43	19.66	20.79	21.16
	3H	21.49	22.53	21.91	22.91	23.33	21.11	22.15	21.53	22.53	22.95
	4H	22.13	23.10	22.57	23.50	23.93	21.89	22.86	22.33	23.26	23.70
	6H	22.61	23.50	23.06	23.92	24.37	22.53	23.43	22.99	23.84	24.29
	8H	22.76	23.61	23.23	24.04	24.50	22.76	23.60	23.23	24.04	24.50
	12H	22.83	23.64	23.31	24.07	24.55	22.89	23.70	23.36	24.12	24.60
4H	2H	20.36	21.33	20.80	21.73	22.16	19.84	20.81	20.28	21.21	21.64
	3H	22.16	22.96	22.61	23.41	23.86	21.90	22.70	22.35	23.15	23.60
	4H	22.93	23.65	23.41	24.11	24.61	22.80	23.53	23.28	23.99	24.48
	6H	23.55	24.17	24.05	24.66	25.18	23.58	24.20	24.08	24.69	25.20
	8H	23.75	24.33	24.25	24.81	25.33	23.85	24.43	24.36	24.92	25.44
	12H	23.85	24.36	24.38	24.89	25.41	24.02	24.53	24.54	25.05	25.58
8H	4H	23.18	23.76	23.69	24.25	24.77	23.09	23.67	23.59	24.15	24.68
	6H	23.93	24.40	24.47	24.93	25.46	23.99	24.46	24.53	25.00	25.53
	8H	24.20	24.62	24.76	25.17	25.71	24.34	24.76	24.90	25.32	25.86
	12H	24.37	24.74	24.92	25.27	25.89	24.60	24.96	25.15	25.50	26.12
12H	4H	23.20	23.71	23.72	24.23	24.75	23.10	23.61	23.62	24.13	24.66
	6H	23.97	24.39	24.53	24.94	25.49	24.04	24.46	24.60	25.01	25.55
	8H	24.29	24.66	24.84	25.19	25.81	24.44	24.81	24.99	25.34	25.96

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-6

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L935-N

Data in this report applies to families of products including EHBR-60-L935-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-6
 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-L935-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 3406
 CIE u': 0.2394
 CIE v': 0.5094
 Duv: -0.0028
 CIE x: 0.4076
 CIE y: 0.3856
 CIE z: 0.2068
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 582
 Purity: 38.0517
 Rf: 91.3
 Rg: 100

CRI (Ra):	94.6		
R1:	96.6	R9:	63.8
R2:	98.4	R10:	94.7
R3:	98.1	R11:	96.6
R4:	95.8	R12:	80.9
R5:	96.2	R13:	97.4
R6:	95.4	R14:	98.3
R7:	91.8	R15:	93.1
R8:	84.4		



Test Conditions

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

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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 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-6

Photopic Flux vs. Wavelength

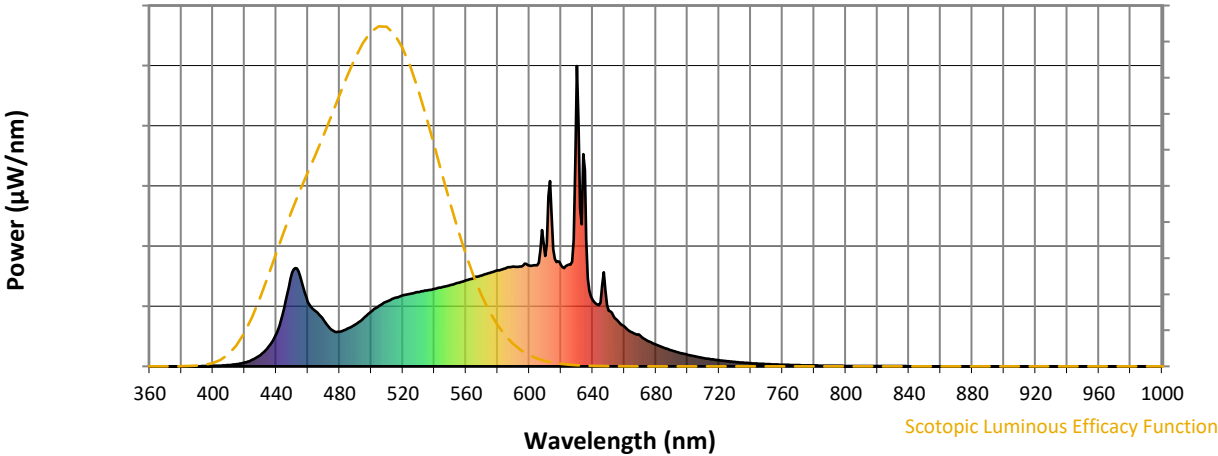


Photopic Lumens: NR

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.62

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Melanopic Flux vs. Wavelength



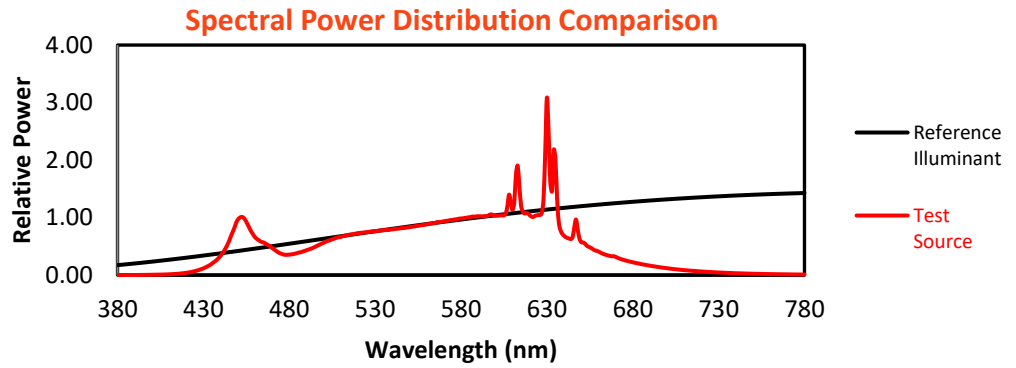
Melanopic Lumens: NR

M/P: 3.3

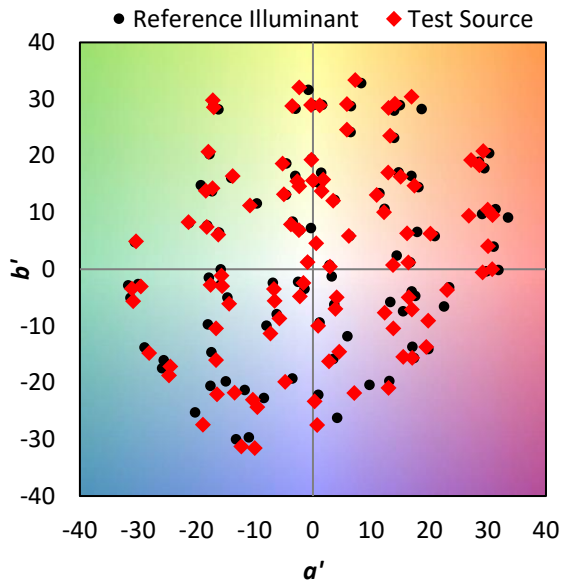
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

Summary

$R_f = 91.3$
 $R_g = 100$
 $CIE R_a = 94.6$
 $R_9 = 63.8$



Color Vector Graphics



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

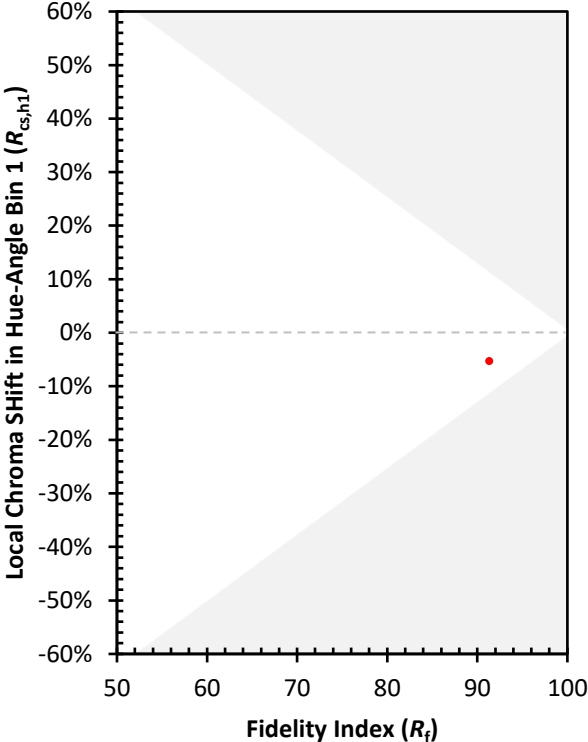
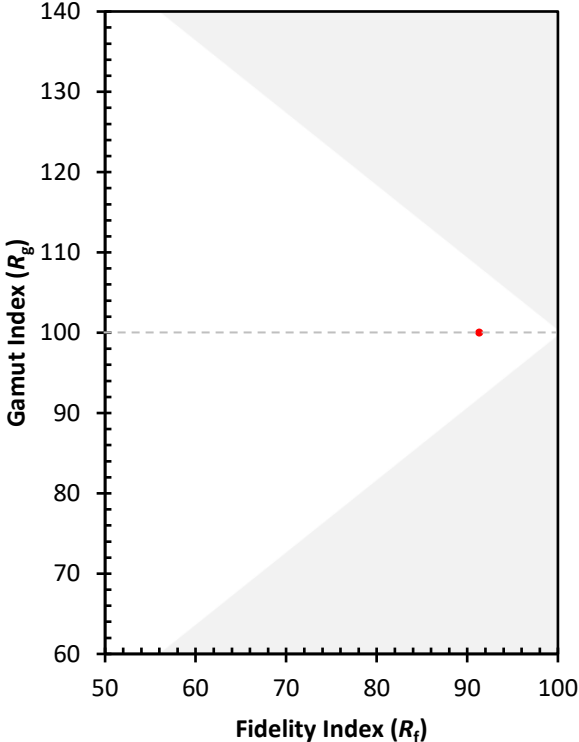
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CES02 = 63	CES27 = 92	CES52 = 98	CES77 = 86
CES03 = 31	CES28 = 97	CES53 = 98	CES78 = 86
CES04 = 70	CES29 = 97	CES54 = 93	CES79 = 90
CES05 = 50	CES30 = 92	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 97	CES56 = 96	CES81 = 74
CES07 = 43	CES32 = 89	CES57 = 94	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 95	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 97	CES60 = 92	CES85 = 79
CES11 = 58	CES36 = 81	CES61 = 93	CES86 = 79
CES12 = 64	CES37 = 96	CES62 = 86	CES87 = 92
CES13 = 44	CES38 = 87	CES63 = 94	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 91	CES89 = 84
CES15 = 72	CES40 = 97	CES65 = 90	CES90 = 96
CES16 = 48	CES41 = 96	CES66 = 89	CES91 = 75
CES17 = 49	CES42 = 94	CES67 = 88	CES92 = 76
CES18 = 56	CES43 = 93	CES68 = 89	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 90	CES94 = 74
CES20 = 67	CES45 = 97	CES70 = 88	CES95 = 83
CES21 = 86	CES46 = 97	CES71 = 83	CES96 = 92
CES22 = 78	CES47 = 91	CES72 = 94	CES97 = 96
CES23 = 91	CES48 = 91	CES73 = 83	CES98 = 95
CES24 = 90	CES49 = 96	CES74 = 90	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 85	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)