

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: P1433455

Luminaire Tested: EHBR1-18-UNV-ASM-L935-UPL30

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433455
REPORT IS A COMBINATION OF REPORTS P1431690 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-18-UNV-ASM-L935-UPL30
Description: Elevate Round Highbay at, 19000 lumens, 3500K 90CRI LEDs with ASM lens
Light Source: -
Ballast/Driver: -

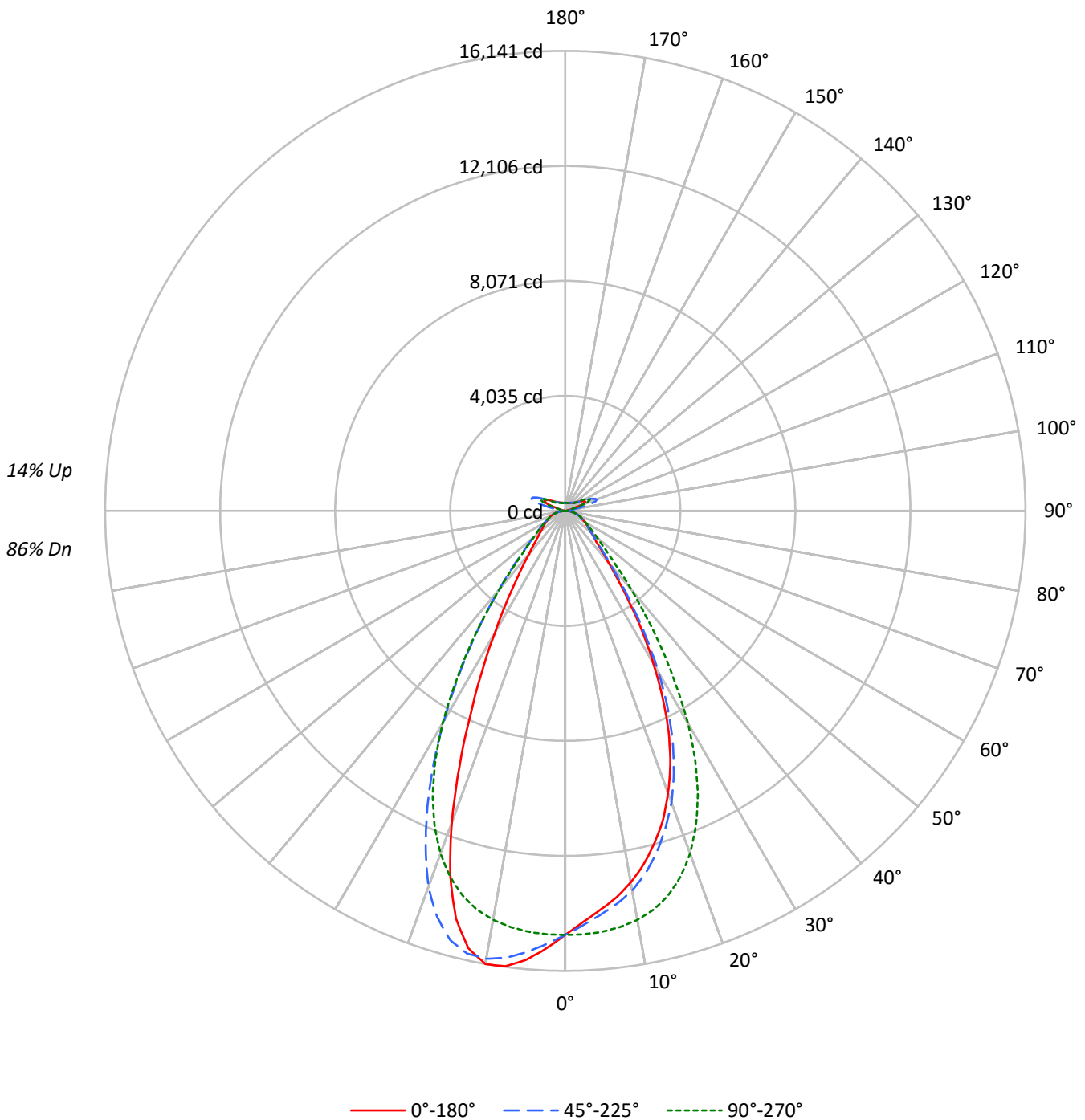
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19397.2 lumens
Efficiency: N/A
Efficacy: 166.2 lumens/watt
Spacing Criteria (0/90/45): 0.84 / 0.99 / 0.92
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 116.7
Input Voltage (V): NR
Input Current (A_{in}): 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: P1433455
CATALOG NUMBER: EHBR1-18-UNV-ASM-L935-UPL30

Luminous Intensity Polar Plot





TEST NUMBER: P1433455

CATALOG NUMBER: EHBR1-18-UNV-ASM-L935-UPL30

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	116	116	116	116	111	111	111	111	103	103	103	96	96	96	89	89	89	89	89	89	86
1	108	105	102	99	104	101	98	96	94	92	90	88	87	85	83	81	80	80	80	80	77
2	101	95	90	86	98	92	88	84	87	83	80	81	79	76	77	74	72	72	72	72	70
3	95	87	81	76	91	84	79	74	80	75	71	75	72	69	71	68	66	66	66	66	63
4	89	80	73	68	86	78	72	67	74	69	65	70	66	62	66	63	60	60	60	60	58
5	83	74	67	62	81	72	65	61	68	63	59	65	60	57	62	58	55	55	55	55	53
6	78	68	61	56	76	67	60	55	63	58	54	61	56	52	58	54	51	51	51	51	49
7	74	63	56	52	72	62	56	51	59	54	50	57	52	48	54	50	47	47	47	47	45
8	70	59	52	48	68	58	51	47	55	50	46	53	49	45	51	47	44	44	44	44	42
9	66	55	49	44	64	54	48	44	52	47	43	50	45	42	48	44	41	41	41	41	39
10	63	52	45	41	61	51	45	41	49	44	40	47	43	39	46	42	38	38	38	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	69856	69856	69856	69856	69856
5°	65828	66597	69431	72761	74070
10°	62301	63620	68578	75098	75972
15°	57549	59086	66553	74327	70601
20°	51260	52987	62243	68321	56613
25°	42958	44584	55091	57306	39225
30°	32141	34005	44732	44285	25518
35°	21397	22689	32083	31565	16526
40°	13494	14421	20742	20876	11391
45°	9615	10014	13161	13727	8823
50°	8008	8073	9774	10028	7498
55°	7070	7086	7980	8190	6830
60°	6546	6490	6910	7056	6507
65°	6248	6192	6299	6422	6274
70°	6069	5964	5971	6085	6147
75°	5769	5596	5583	5780	5948
80°	5250	4883	4904	5250	5615
85°	3823	3171	3171	3628	4009

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 18504 cd/sqm



TEST NUMBER: P1433455
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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1414.4	7.3
10°-20°	3848.0	19.8
20°-30°	4513.0	23.3
30°-40°	3138.5	16.2
40°-50°	1559.7	8.0
50°-60°	932.9	4.8
60°-70°	656.6	3.4
70°-80°	423.0	2.2
80°-90°	139.2	0.7
90°-100°	73.5	0.4
100°-110°	482.8	2.5
110°-120°	892.4	4.6
120°-130°	530.0	2.7
130°-140°	319.9	1.6
140°-150°	220.8	1.1
150°-160°	143.6	0.7
160°-170°	81.9	0.4
170°-180°	27.1	0.1
0°-30°	9775.4	50.4
0°-40°	12913.9	66.6
0°-60°	15406.4	79.4
0°-90°	16625.2	85.7
90°-120°	1448.7	7.5
90°-150°	2519.5	13.0
90°-180°	2772.0	14.3
0°-180°	19397.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	14875	14875	14875	14875	14875	
5°	14055	14220	14825	15536	15815	1318
15°	12074	12396	13962	15593	14812	3367
25°	8579	8903	11002	11444	7833	3871
35°	3927	4164	5888	5793	3033	2502
45°	1556	1620	2129	2221	1428	1257
55°	955	958	1078	1107	923	867
65°	652	646	658	670	655	648
75°	406	394	393	407	419	429
85°	131	109	109	125	138	135
90°	20	56	20	59	22	16
95°	34	125	39	107	36	33
105°	168	843	222	899	112	225
115°	771	997	950	1104	810	711
125°	557	534	608	591	636	507
135°	406	409	383	428	442	318
145°	336	352	346	354	361	213
155°	297	307	307	307	320	139
165°	281	288	287	286	295	80
175°	280	284	285	282	288	27
180°	284	284	284	284	284	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	14875.4	14875.4	14875.4	14875.4	14875.4	14875.4	14875.4	14875.4	14875.4
2.5°	14433.8	14443.4	14544.3	14675.7	14866.7	15058.9	15214.6	15317.2	15368.0
5°	14055.4	14107.8	14219.6	14460.9	14824.7	15209.6	15535.7	15749.0	15815.1
7.5°	13686.6	13716.9	13904.2	14209.0	14724.0	15323.7	15808.2	16057.3	16118.1
10°	13236.7	13305.6	13517.0	13876.5	14570.3	15395.6	15955.5	16133.9	16141.2
12.5°	12707.2	12798.5	13016.9	13470.4	14325.1	15370.0	15906.1	15847.5	15714.4
15°	12073.5	12153.5	12396.0	12922.0	13962.5	15217.9	15593.4	15116.7	14811.8
17.5°	11388.9	11461.5	11672.1	12251.4	13451.5	14933.4	14940.7	13997.6	13422.4
20°	10535.5	10592.4	10890.3	11458.7	12792.8	14477.1	14042.0	12317.0	11635.6
22.5°	9627.2	9680.5	9945.2	10536.8	11967.2	13861.8	12790.3	10626.4	9696.6
25°	8578.7	8607.7	8903.3	9438.3	11001.6	13107.8	11444.0	8784.2	7833.1
27.5°	7399.1	7448.4	7757.8	8304.2	9865.7	12152.2	10010.2	7178.1	6300.6
30°	6182.3	6264.1	6540.8	7030.0	8604.1	10927.1	8518.1	5716.5	4908.4
32.5°	5046.8	5105.6	5302.8	5814.1	7191.5	9726.3	7085.2	4580.4	3896.0
35°	3927.1	3986.0	4164.2	4666.3	5888.3	8223.9	5793.3	3599.1	3033.1
37.5°	3001.9	3106.0	3220.3	3627.9	4621.1	6804.4	4618.1	2898.2	2460.2
40°	2338.9	2355.6	2499.6	2760.3	3595.2	5320.4	3618.3	2313.5	1974.3
42.5°	1872.2	1917.7	1979.6	2174.8	2724.1	4068.2	2844.1	1898.8	1677.0
45°	1555.6	1573.5	1620.3	1751.5	2129.4	2993.8	2220.9	1601.9	1427.6
47.5°	1360.9	1353.2	1383.2	1481.4	1734.2	2313.8	1800.0	1374.0	1251.8
50°	1193.5	1188.8	1203.1	1268.6	1456.6	1775.4	1494.5	1199.4	1117.4
52.5°	1063.6	1067.7	1069.2	1109.9	1251.3	1448.0	1272.8	1068.9	1013.6
55°	955.4	960.6	957.6	987.7	1078.4	1217.3	1106.8	961.3	923.0
57.5°	870.8	866.9	862.7	879.0	947.0	1032.6	961.3	869.4	844.1
60°	786.9	783.3	780.2	790.8	830.7	894.3	848.2	789.4	782.2
62.5°	714.9	712.6	712.4	710.5	741.1	781.3	750.1	717.5	711.0
65°	652.2	649.7	646.3	643.2	657.5	694.8	670.3	652.7	654.9
67.5°	589.4	589.4	583.5	578.8	592.7	612.2	601.6	591.7	594.1
70°	532.5	532.7	523.3	519.7	523.9	544.8	533.9	535.3	539.4
72.5°	471.4	464.7	457.7	457.4	458.0	474.2	470.6	473.9	478.4
75°	406.4	398.6	394.2	389.1	393.3	405.6	407.2	412.0	419.0
77.5°	343.7	331.6	328.0	325.6	322.7	336.7	342.0	348.4	358.7
80°	276.2	263.0	256.9	253.3	258.0	264.5	276.2	280.9	295.4
82.5°	204.2	194.4	186.9	186.6	188.9	194.7	204.7	213.6	222.1
85°	131.4	115.7	109.0	111.6	109.0	118.0	124.7	135.3	137.8
87.5°	47.4	37.1	35.4	39.1	38.2	41.0	46.9	51.0	51.3
90°	20.2	32.5	55.6	35.6	20.2	34.3	59.2	32.4	22.2
92.5°	29.5	49.4	89.4	46.3	26.4	46.6	83.7	43.1	29.9
95°	34.1	57.1	124.6	61.7	39.0	57.4	106.8	47.7	36.1
97.5°	43.5	63.3	143.1	75.5	60.5	71.1	120.6	50.8	43.7
100°	57.4	74.0	223.0	92.7	80.4	80.4	220.4	58.5	49.8
102.5°	97.2	156.9	473.2	174.1	121.9	157.4	510.9	117.2	60.6
105°	167.9	330.4	843.3	364.5	221.7	360.2	899.4	303.0	111.6
107.5°	290.8	591.5	1112.3	645.5	419.7	671.9	1158.9	597.8	260.5
110°	542.6	785.0	1166.1	886.6	671.6	939.0	1264.9	819.0	527.8



TEST NUMBER: P1433455

CATALOG NUMBER: EHBR1-18-UNV-ASM-L935-UPL30

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	733.0	843.3	1117.0	978.7	874.3	1046.5	1235.7	908.0	730.4
115°	771.4	811.1	997.1	955.7	949.8	1031.2	1103.6	905.0	810.3
117.5°	745.3	740.5	846.7	859.2	917.6	943.7	953.2	849.7	814.9
120°	690.0	659.1	706.9	750.2	828.5	817.8	802.9	768.3	768.8
122.5°	620.9	584.0	605.9	638.3	716.7	693.6	678.6	685.6	705.8
125°	556.7	519.6	533.9	541.9	607.7	584.6	591.3	614.9	635.5
127.5°	499.9	475.0	483.3	474.3	515.8	505.0	528.3	555.1	572.5
130°	461.5	440.0	451.3	430.1	450.0	452.8	483.8	506.2	517.2
132.5°	429.5	415.7	428.9	403.0	408.9	420.8	450.4	469.7	476.0
135°	406.5	394.4	408.9	384.9	383.1	400.9	427.6	440.2	442.3
137.5°	386.8	376.3	391.1	372.9	368.0	385.9	406.1	415.9	413.1
140°	369.0	360.1	375.9	362.2	359.1	376.9	386.2	397.4	395.0
142.5°	349.6	343.4	362.4	353.2	350.1	366.5	371.1	379.3	376.5
145°	336.3	331.7	351.9	347.0	345.8	357.8	354.5	365.5	361.4
147.5°	324.6	321.5	340.0	338.2	338.2	347.0	342.4	351.9	347.8
150°	314.4	311.3	329.5	327.6	329.2	335.3	328.9	340.0	339.0
152.5°	304.2	300.8	317.4	315.6	317.1	323.3	317.1	329.7	328.5
155°	297.0	293.7	307.2	306.7	307.0	310.1	307.0	319.5	319.8
157.5°	291.7	289.7	300.1	299.8	299.8	301.6	300.1	311.2	311.5
160°	287.8	285.9	294.8	294.6	293.3	296.4	295.1	304.6	304.9
162.5°	283.7	281.9	292.3	290.8	290.8	290.8	289.8	299.3	299.8
165°	281.1	280.9	288.3	288.3	287.0	288.6	286.0	292.7	294.8
167.5°	281.1	279.6	287.3	287.3	286.0	284.5	285.0	290.6	292.7
170°	280.1	279.9	286.0	284.8	283.2	283.5	282.6	288.0	290.1
172.5°	280.7	280.4	286.9	285.3	284.1	284.1	281.9	285.8	289.4
175°	279.8	279.5	284.4	284.4	284.7	283.4	282.4	284.8	288.4
177.5°	281.6	281.3	284.4	284.4	283.1	283.7	284.2	286.6	291.7
180°	283.7	283.7	283.7	283.7	283.7	283.7	283.7	283.7	283.7



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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	14.11	15.12	14.71	15.70	16.36	14.87	15.88	15.48	16.47	17.13
	3H	15.92	16.82	16.53	17.42	18.11	16.43	17.33	17.04	17.93	18.62
	4H	16.65	17.49	17.29	18.11	18.82	17.07	17.91	17.71	18.53	19.24
	6H	17.22	17.99	17.86	18.62	19.34	17.57	18.34	18.21	18.96	19.69
	8H	17.40	18.13	18.06	18.77	19.50	17.72	18.45	18.38	19.09	19.82
	12H	17.50	18.19	18.16	18.83	19.58	17.80	18.50	18.46	19.13	19.88
4H	2H	14.62	15.46	15.25	16.07	16.78	15.25	16.09	15.88	16.70	17.41
	3H	16.65	17.35	17.30	18.00	18.73	17.05	17.74	17.70	18.40	19.13
	4H	17.51	18.14	18.18	18.80	19.56	17.83	18.46	18.50	19.12	19.88
	6H	18.20	18.74	18.89	19.43	20.21	18.47	19.00	19.15	19.69	20.47
	8H	18.43	18.93	19.12	19.62	20.40	18.67	19.17	19.36	19.85	20.64
	12H	18.56	19.01	19.27	19.72	20.50	18.78	19.23	19.49	19.94	20.72
8H	4H	17.77	18.27	18.46	18.95	19.74	18.07	18.58	18.76	19.26	20.04
	6H	18.58	19.00	19.30	19.72	20.51	18.84	19.25	19.55	19.97	20.76
	8H	18.89	19.25	19.62	19.98	20.79	19.12	19.48	19.85	20.22	21.02
	12H	19.08	19.40	19.82	20.12	20.99	19.30	19.62	20.03	20.33	21.20
12H	4H	17.77	18.22	18.48	18.93	19.71	18.08	18.52	18.79	19.23	20.02
	6H	18.62	18.99	19.36	19.72	20.52	18.88	19.25	19.62	19.98	20.78
	8H	18.97	19.29	19.70	20.00	20.87	19.21	19.53	19.94	20.24	21.11

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



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

Report Prepared for

Cooper Lighting Solutions

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

REPORT NUMBER: SP1-2506-472-6

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

REPORT NUMBER: SP1-2506-472-6

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

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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	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			

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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			

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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

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

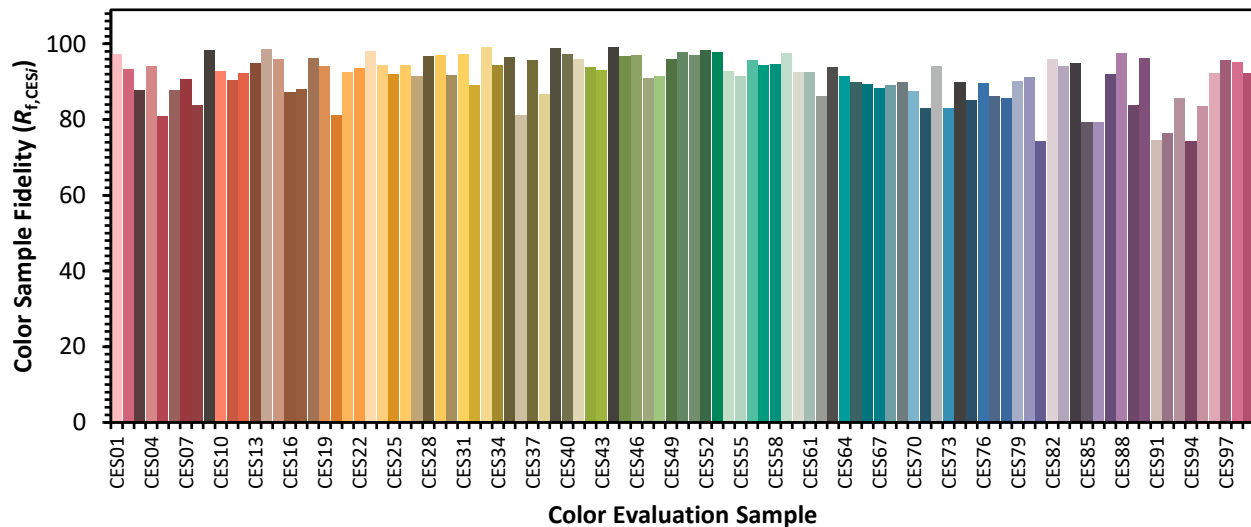


Color Vector Graphics

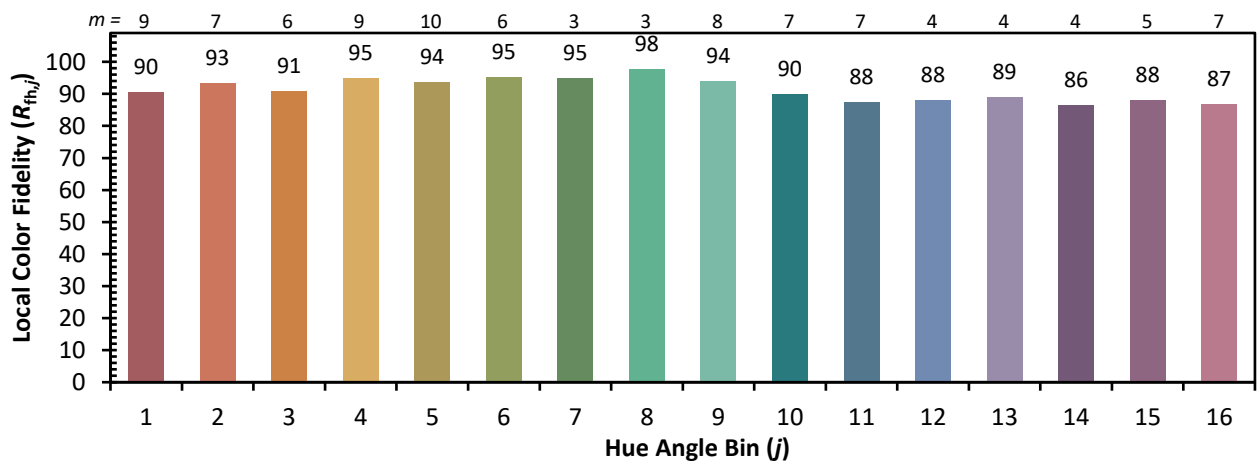
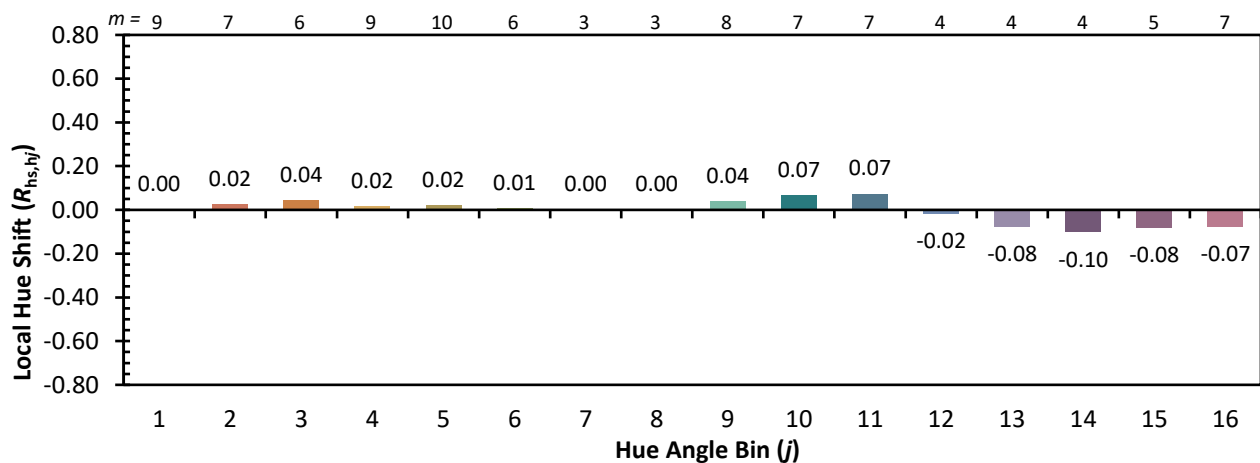
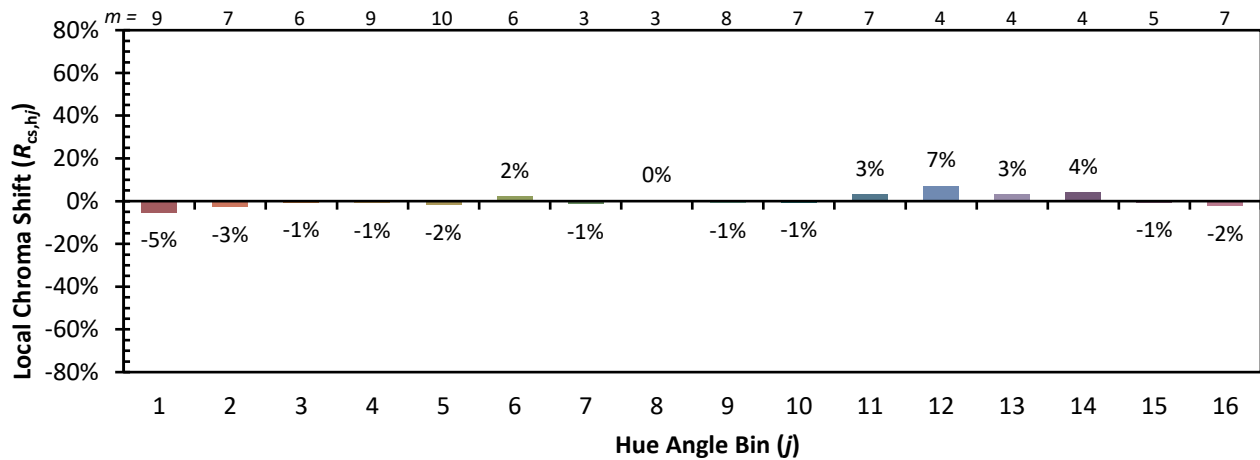


Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 94	CES51 = 97	CES76 = 90
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)