



UL Verification Services Inc.
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Allentown, PA 18106
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Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-10-2014, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2017, IES TM-30-2018

Prepared For
Hubbell Lighting Inc
701 Millennium Blvd
Greenville, SC 29607
United States

Catalog Number
P550099-020-30 (P21.00064)
Order Number
13646774
Test Number
13646774.34

Test Date

2021-01-08 - 2021-01-11

Prepared By

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Approved By

Jeffrey Lockner, Senior Project Engineer

The results contained in this report pertain only to the tested sample.
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Table of Contents

Summary of Results	Page 3
Integrating Sphere Results	Page 4
Distribution Results	
Conditions / Summary of Results / Polar Plot / Zonal Lumens	Page 5
Candela Tabulation / Average Luminance	Page 6
Coefficients of Utilization / Cone of Light	Page 7
ISOFootcandle Plot	Page 8
Full TM-30 Report	Page 9

Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.

Absorption correction was employed for Sphere measurement



Luminaire Description: Brown aluminum housing, frosted plastic diffuser, no enclosure
Lamp: White LEDs
Mounting: Pendant
Ballast/Driver: N/A
Note: Data comes from original report #13646774.30. This model differs only in mounting.

Luminaire



Luminaire Characteristics
Luminous Diameter: 5.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 480.5 Lumens
Efficacy: 26.44 lm/w
CCT: 3015 K
CRI (Ra): 93.6

Distribution

Total Luminaire Output: 488.3 Lumens
Luminaire Efficacy: 26.9 lm/w
Maximum Candela: 434 Candela

Electrical Data at 120 VAC

Test Temperature: 24.9 °C
Voltage: 120.1 VAC
Current: 0.1657 A
Power: 18.17 W
Power Factor: 0.913
Frequency: 60 Hz
Current THD: 44.6 %



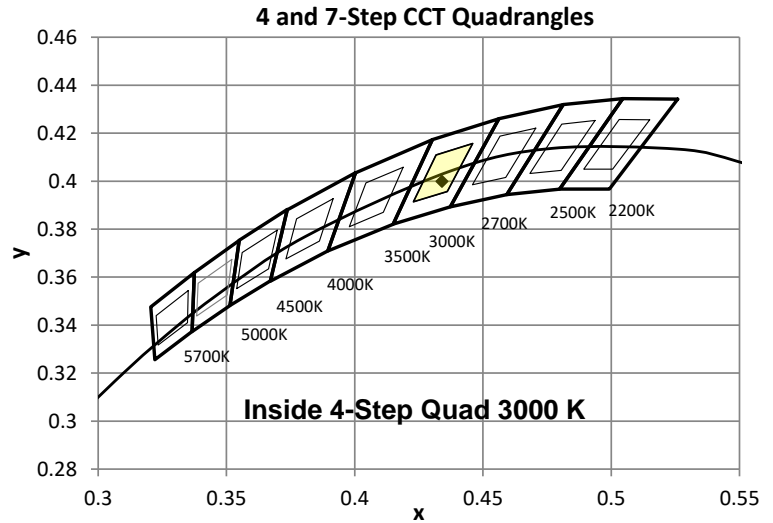
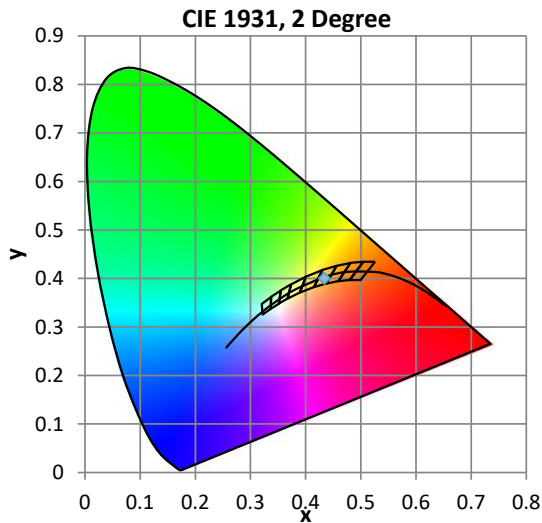
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.9 °C	120.1 VAC	0.1657 A	18.17 W	0.913	60 Hz	44.6 %

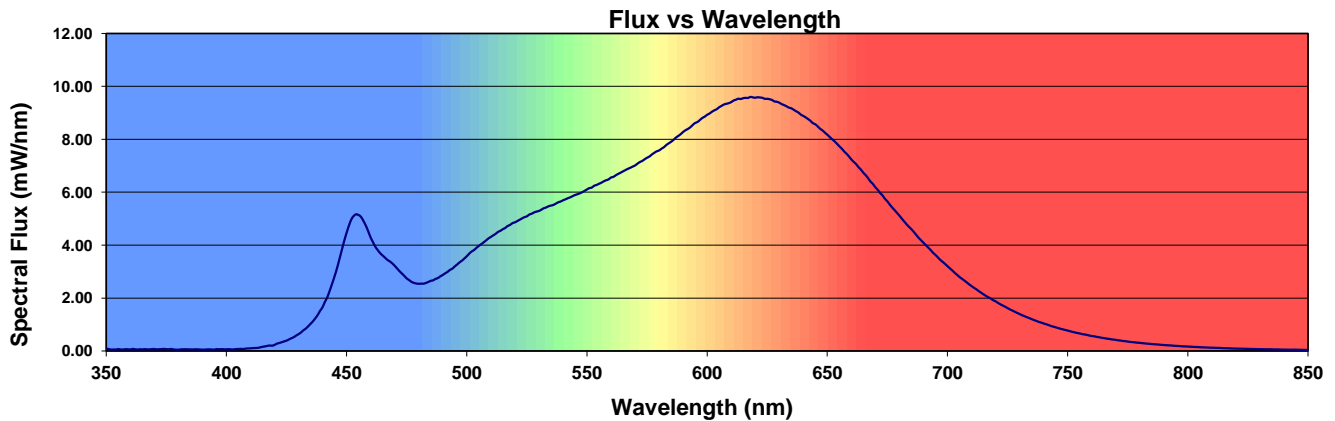
Summary of Results

Total Output:	481 Lumens	Chromaticity (x):	0.4340
Efficacy:	26.4 lm/w	Chromaticity (y):	0.4000
CCT:	3015 K	Chromaticity (u'):	0.2504
CRI (Ra):	93.6	Chromaticity (v'):	0.5193
CRI (R9):	63.0	TM-30 Rf:	92
Peak Wavelength:	618 nm	TM-30 Rg:	99
Dominant Wavelength:	583 nm	TM-30 Rcs,h1:	-5%
S/P Ratio:	1.45	Duv:	-0.0012



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.6	94.3	97.9	98.5	93.2	93.9	96.5	91.7	82.9	63.0	93.9	94.1	82.3	95.5	99.3	90.9





Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	120.0 VAC	0.1654 A	18.13 W	0.913	60 Hz	44.7 %

Summary of Results

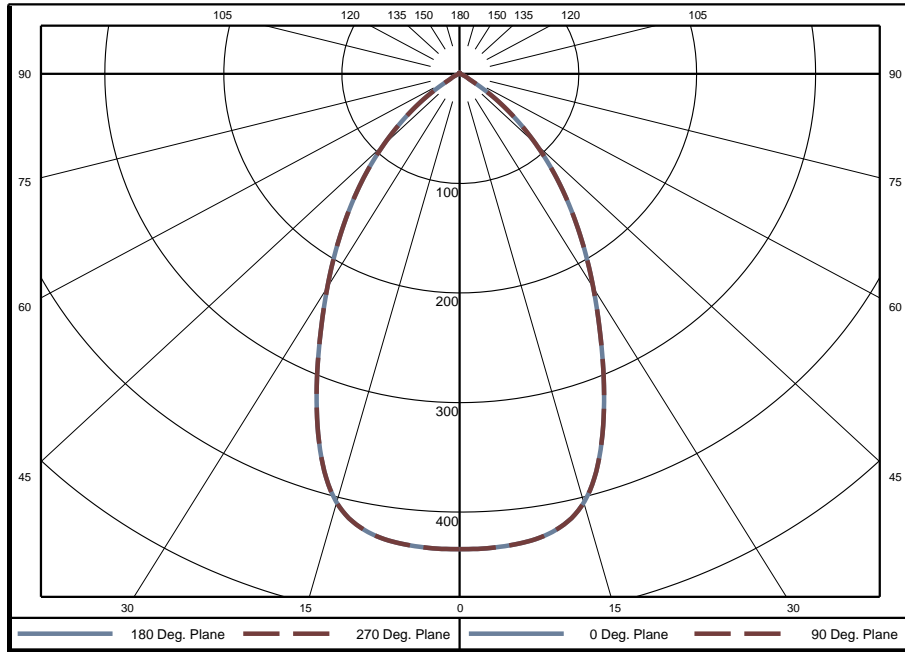
Total Lumen Output: 488.3 Lumens
Luminaire Efficacy: 26.9 lm/w
Maximum Candela: 434 Candela

Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)

Crosswise: 7.8

Endwise: 7.8

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	10.37	2.1%	60-65	3.03	0.6%	120-125	0	0.0%
5-10	30.78	6.3%	65-70	1.45	0.3%	125-130	0	0.0%
10-15	49.46	10.1%	70-75	0.61	0.1%	130-135	0	0.0%
15-20	62.32	12.8%	75-80	0.27	0.1%	135-140	0	0.0%
20-25	66.07	13.5%	80-85	0.13	0.0%	140-145	0	0.0%
25-30	63.52	13.0%	85-90	0.04	0.0%	145-150	0	0.0%
30-35	58.01	11.9%	90-95	0	0.0%	150-155	0	0.0%
35-40	50.12	10.3%	95-100	0	0.0%	155-160	0	0.0%
40-45	40.25	8.2%	100-105	0	0.0%	160-165	0	0.0%
45-50	28.81	5.9%	105-110	0	0.0%	165-170	0	0.0%
50-55	16.87	3.5%	110-115	0	0.0%	170-175	0	0.0%
55-60	6.16	1.3%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	391	80.0%
0-60	483	98.9%
0-90	488	100.0%
90-180	0	0.0%



Candela Tabulation
Horizontal Angle (Degrees)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0	434.0
5	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0	433.0
10	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7	426.7
15	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1	404.1
20	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9	349.9
25	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5	282.5
30	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2
35	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0	173.0
40	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1	129.1
45	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5	89.5
50	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5	54.5
55	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9	23.9
60	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
65	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
70	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
75	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
80	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
85	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
160	0.0	0.0	0.0	0.0	0.0	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	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	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	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	0.0	0.0	0.0	0.0	0.0

Vertical Angle (Degrees)



Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%

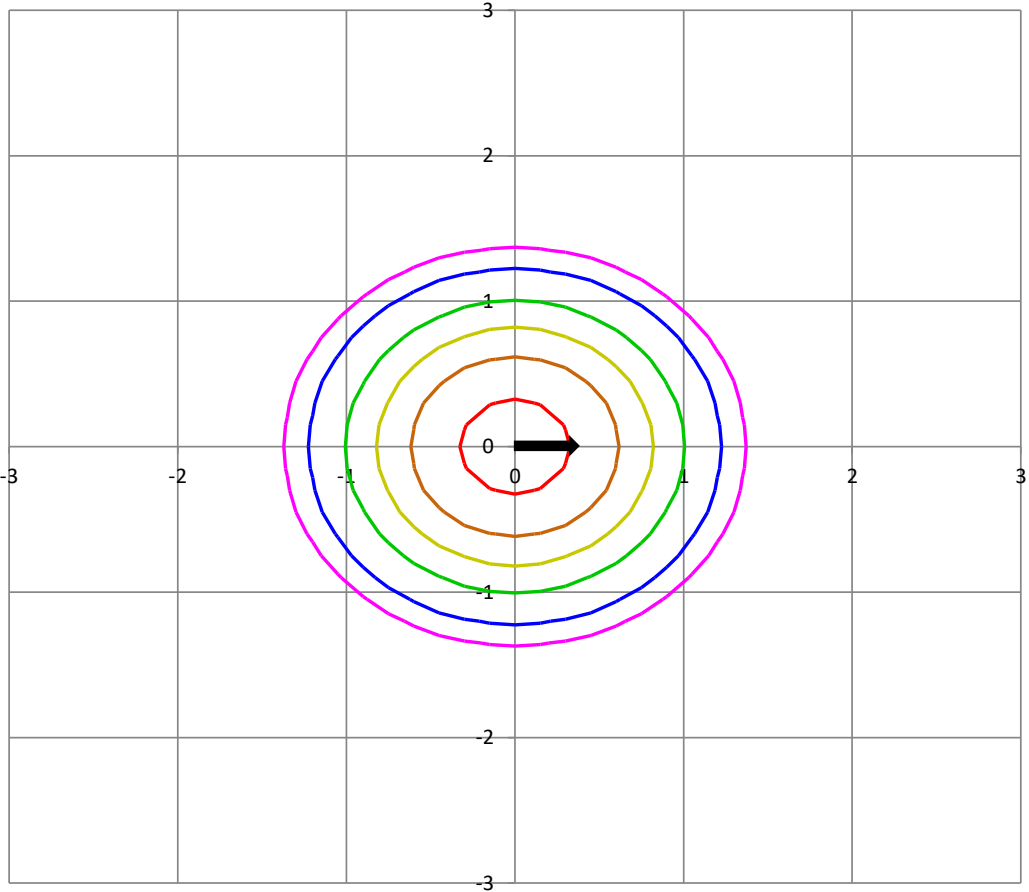
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84
3	100	93	88	83	98	92	87	82	89	85	81	87	83	80	84	81	79	77
4	94	86	80	75	92	85	79	75	83	78	74	81	76	73	79	75	72	70
5	89	80	73	68	87	79	73	68	77	71	67	75	70	67	73	69	66	65
6	84	74	67	63	82	73	67	62	72	66	62	70	65	61	69	64	61	59
7	79	69	62	58	78	68	62	57	67	61	57	66	60	57	64	60	56	55
8	75	64	58	53	73	64	57	53	63	57	53	61	56	53	60	56	52	51
9	71	60	54	49	70	60	53	49	59	53	49	58	53	49	57	52	49	47
10	67	57	50	46	66	56	50	46	55	50	46	54	49	46	54	49	45	44

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	434.0 Candela
Central Cone Intensity:	434 Candela
Beam Flux:	289.2 Lumens
Beam Angle (0-180):	61.2 Degrees
Beam Angle (90-270):	61.2 Degrees
Field Angle (0-180):	103.5 Degrees
Field Angle (90-270):	103.5 Degrees



ISOFootcandle Plot

Mounting Height - 8 Feet



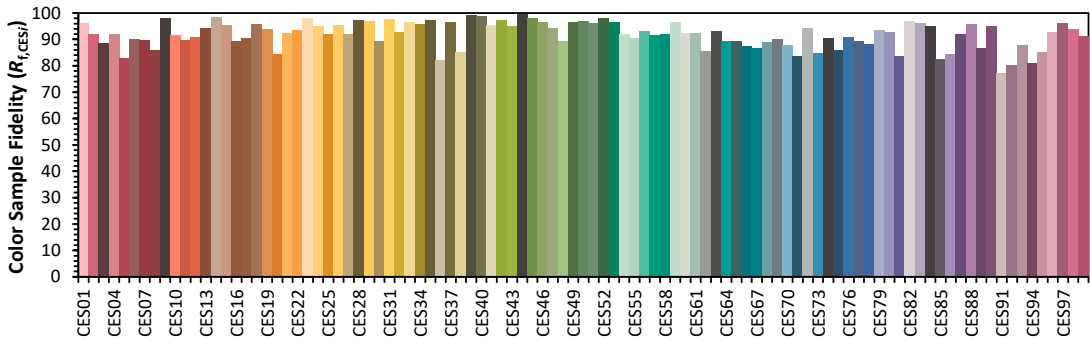
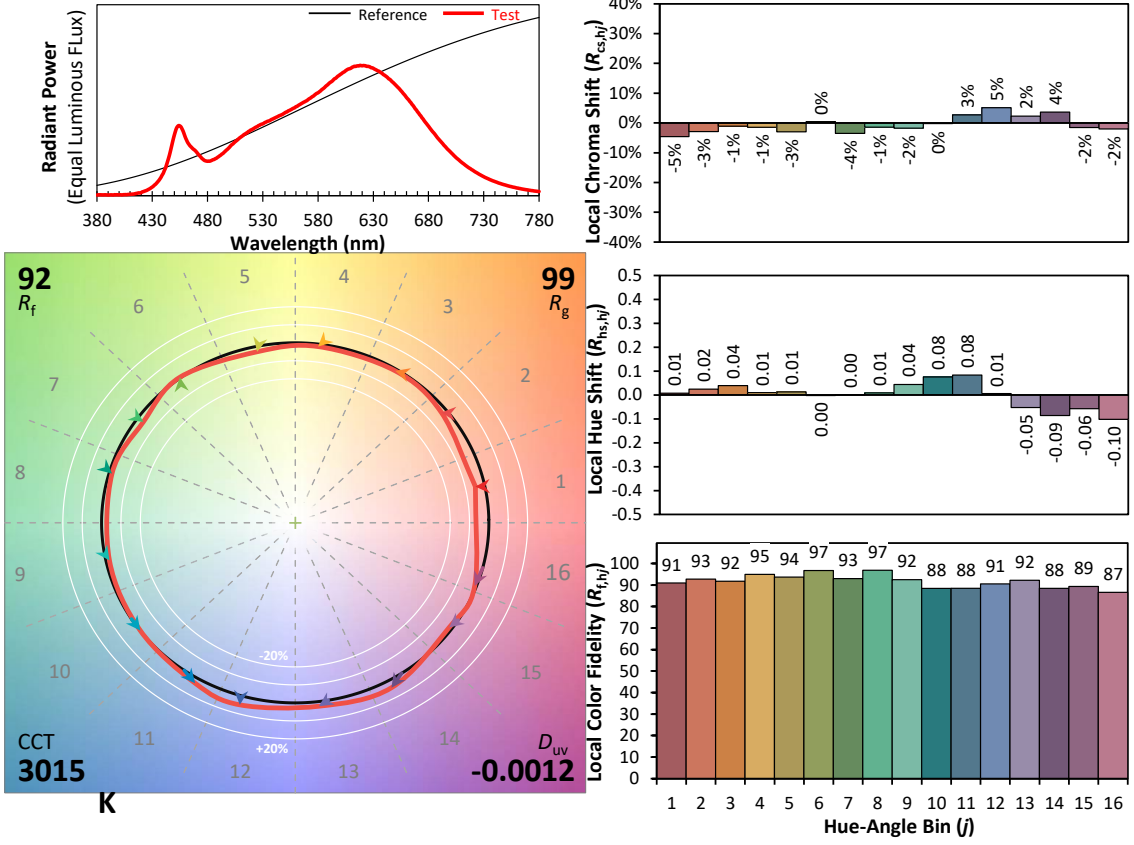
Grid Lines in Units of Mounting Height



ANSI/IES TM-30-18 Color Rendition Report

Source: Test Number: 13646774.34
 Date: 2021-01-08

Manufacturer: Hubbell Lighting Inc
 Model: P550099-020-30 (P21.00064)



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4340
 y 0.4000
 u' 0.2504
 v' 0.5193

CIE 13.3-1995 (CRI)	
R_a	94
R_g	63

Colors are for visual orientation purposes only. Created with the IES TM-30-18 Calculator Version 2.00.