



UL Solutions
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Photometric Test Report

Relevant Standards
IES LM-79-2019, ANSI C82.77-10-2014, UL 1598-2008
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017
IES TM-30-2018

Prepared For
RBW STUDIO LLC

575 Boices Ln
Kingston, NY 12401
United States

Catalog Number
Tidal Small. 2700K. Cream White.

Order Number
15719547
Test Number
15719547.01

Test Date
2025-03-13 - 2025-03-18

Prepared By

Jesse Litchfield, Project Handler

Approved By

Shivani Vyas, Engineering Project Handler

The results contained in this report pertain only to the tested sample.
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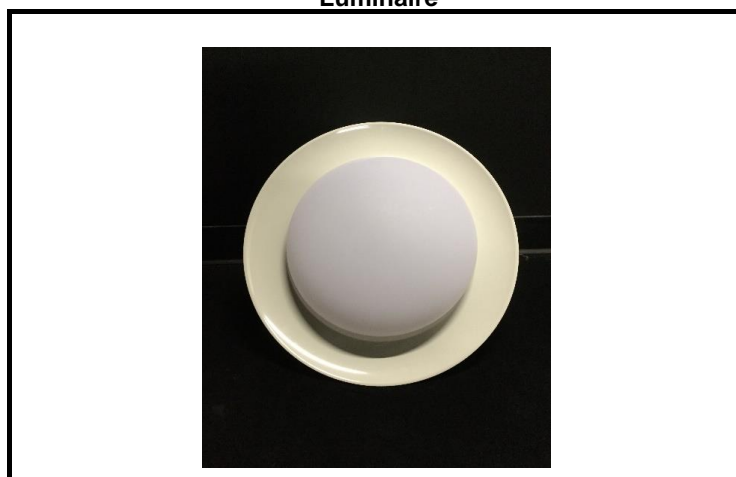
Laboratory results may not be representative of field performance
Ballast factors have not been applied

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

Absorption correction was employed for Sphere measurement

Luminaire Description: Round fixture w/ frosted cover and small round metal cream shade
Lamp: 72 white LED's
Mounting: Surface – Ceiling
Ballast/Driver: ERP PSB

Luminaire



Luminaire Characteristics

Luminous Diameter: 20.00 in.
 Luminous Height: 5.00 in.

Summary of Results

Integrating Sphere

Luminous Flux: 2381 Lumens
 Efficacy: 88.38 lm/w
 CCT: 2672 K
 CRI (Ra): 93.8

Distribution

Total Luminaire Output: 2392 Lumens
 Luminaire Efficacy: 88.3 lm/w
 Maximum Candela: 487 Candela

Electrical Data at 120 VAC

Test Temperature: 24.2 °C
 Voltage: 120.0 VAC
 Current: 0.2285 A
 Power: 26.94 W
 Power Factor: 0.983
 Frequency: 120 Hz
 Current THD: 13.8 %

In-Situ

LED Temperature: 56.4 °C
 Driver Temperature: 67.8 °C
 Measured LED Current: 0.05730 A

Temperature is offset to an ambient temperature of 25°C as described in UL1598-2008.

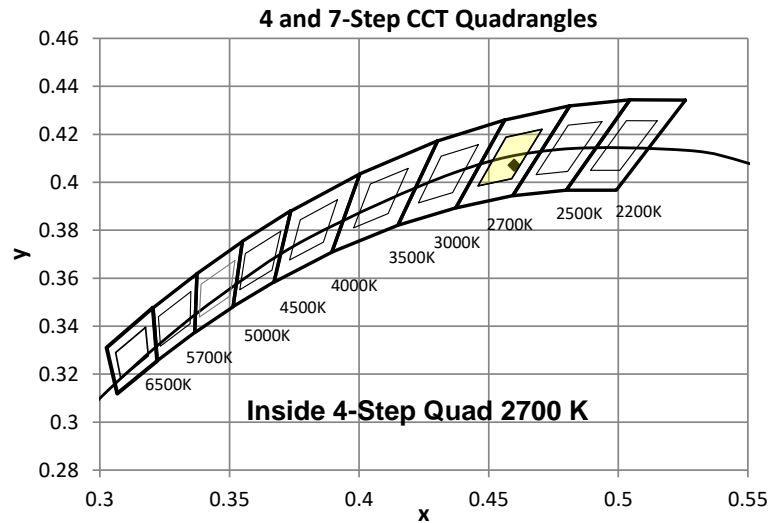
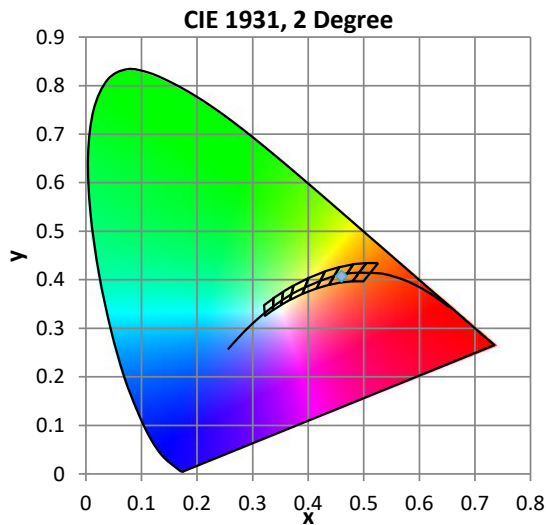
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.2 °C	120.0 VAC	0.2285 A	26.94 W	0.983	120 Hz	13.8 %

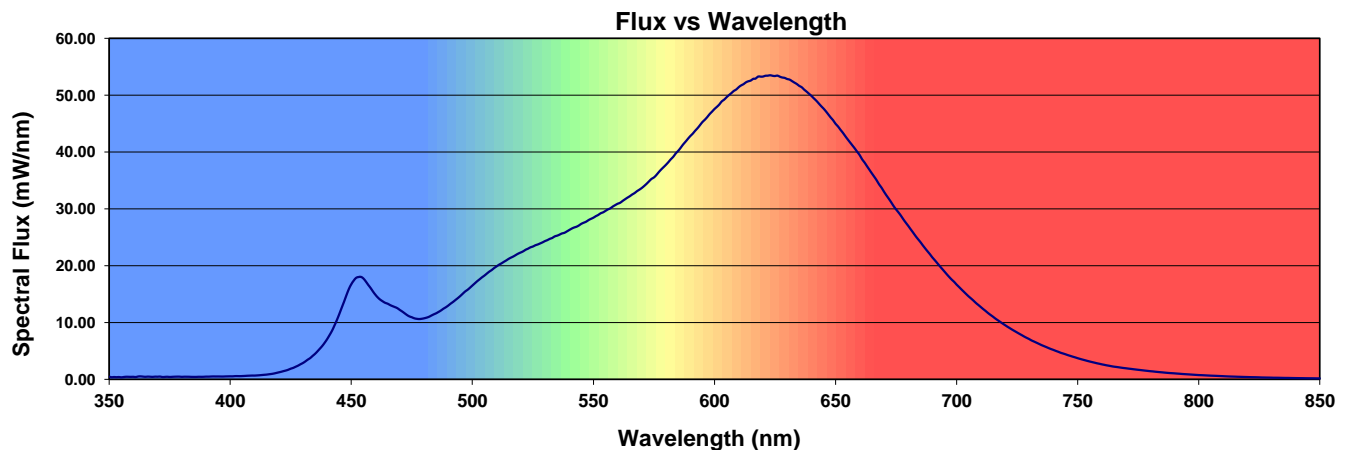
Summary of Results

Total Output:	2381 Lumens	Chromaticity (x):	0.4598
Efficacy:	88.4 lm/w	Chromaticity (y):	0.4071
CCT:	2672 K	Chromaticity (u'):	0.2640
CRI (Ra):	93.8	Chromaticity (v'):	0.5260
CRI (R9):	60.9	TM-30 Rf:	93
Peak Wavelength:	623 nm	TM-30 Rg:	99
Dominant Wavelength:	555 nm	TM-30 Rcs,h1:	-5%
S/P Ratio:	1.3	Duv:	-0.0012
M/P Ratio:	0.5 WELL Building Standard v2		



Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.8	95.2	98.9	97.8	94.8	95.7	96.7	90.4	81.2	60.9	96.9	97.1	89.6	96.6	99.6	90.4



Distribution - Goniophotometer

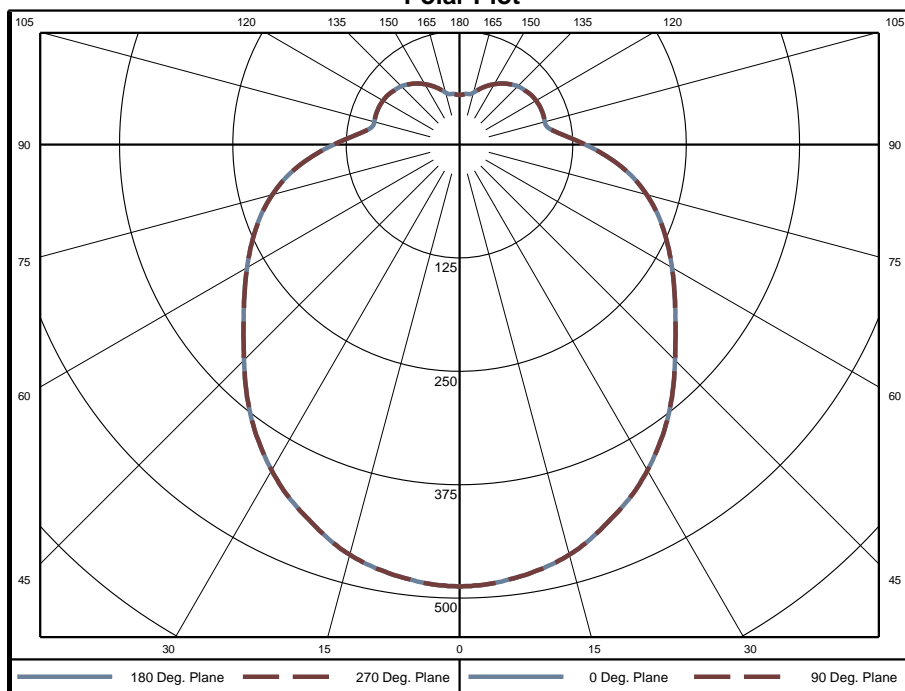
Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	120.0 VAC	0.2303 A	27.07 W	0.979	60 Hz	13.5 %

Summary of Results

Spacing Criteria	Total Lumen Output:	2392 Lumens
0-180: 1.26	Luminaire Efficacy:	88.3 lm/w
90-270: 1.26	Maximum Candela:	487 Candela
Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)		
Crosswise: 18.8	Endwise: 18.8	

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	11.6	0.5%	60-65	127.0	5.3%	120-125	44.8	1.9%
5-10	34.4	1.4%	65-70	123.1	5.1%	125-130	41.3	1.7%
10-15	56.1	2.3%	70-75	117.1	4.9%	130-135	37.4	1.6%
15-20	75.9	3.2%	75-80	108.6	4.5%	135-140	33.0	1.4%
20-25	93.0	3.9%	80-85	97.1	4.1%	140-145	28.3	1.2%
25-30	107.5	4.5%	85-90	83.3	3.5%	145-150	23.5	1.0%
30-35	118.5	5.0%	90-95	69.7	2.9%	150-155	18.9	0.8%
35-40	125.9	5.3%	95-100	58.7	2.5%	155-160	14.4	0.6%
40-45	129.5	5.4%	100-105	52.5	2.2%	160-165	10.3	0.4%
45-50	130.5	5.5%	105-110	51.1	2.1%	165-170	6.9	0.3%
50-55	130.3	5.4%	110-115	49.7	2.1%	170-175	4.1	0.2%
55-60	129.3	5.4%	115-120	47.6	2.0%	175-180	1.3	0.1%

Zone	Lumens	% of Luminaire
0-40	623	26.0%
0-60	1143	47.8%
0-90	1799	75.2%
90-180	594	24.8%

Candela Tabulation
Horizontal Angle (Degrees)

Vertical 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	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2	487.2
	5	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1	484.1
	10	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5	477.5
	15	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6	467.6
	20	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4	452.4
	25	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6	434.6
	30	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2	414.2
	35	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7	390.7
	40	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1	364.1
	45	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9	335.9
	50	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9	310.9
	55	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4	289.4
	60	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3	270.3
	65	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1	252.1
	70	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0	234.0
	75	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8	213.8
	80	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5	191.5
	85	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4	165.4
	90	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0	139.0
	95	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3	116.3
	100	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0
	105	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3	97.3
	110	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0	98.0
	115	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1	98.1
	120	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4	97.4
	125	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1	96.1
	130	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5	93.5
	135	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0
	140	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0	87.0
	145	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5	82.5
	150	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
	155	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6	71.6
	160	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7	65.7
	165	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6	59.6
	170	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9	56.9
	175	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.9
	180	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0

Average Luminance (cd/m²)

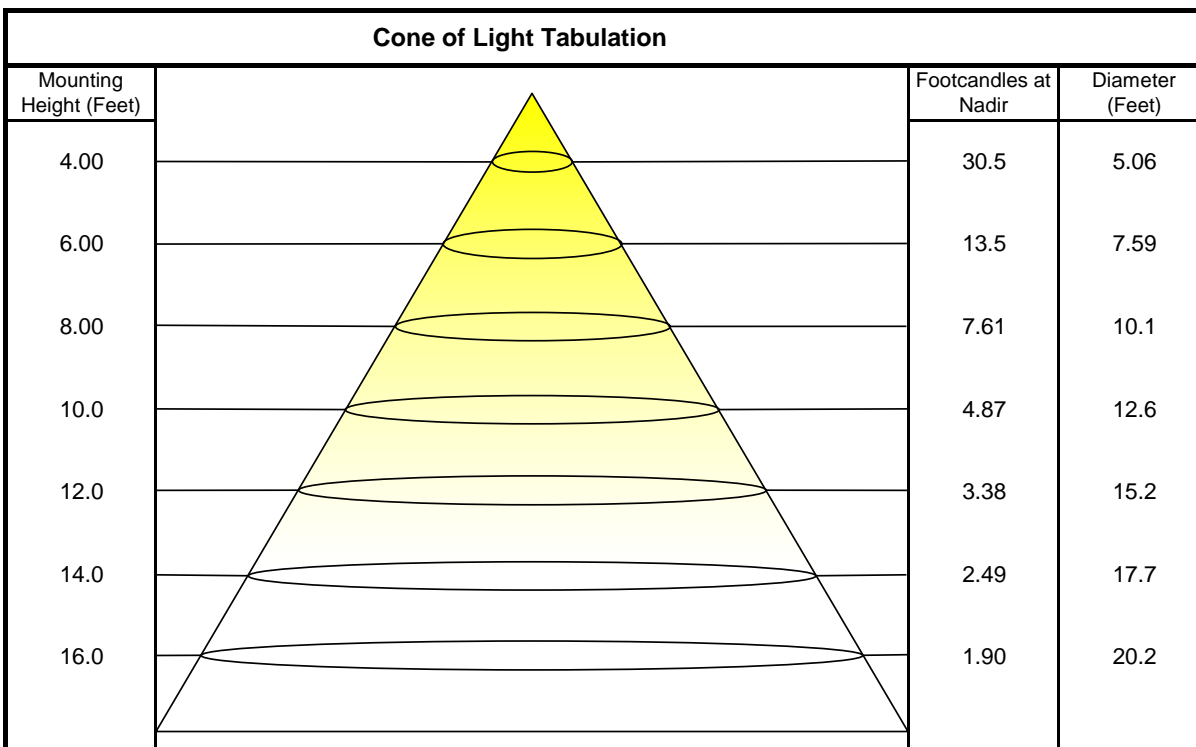
Vertical Angle (Degrees)	Horizontal Angle (Degrees)			
	0	45	90	
	0	2404	2404	2404
	45	1778	1778	1778
	55	1711	1711	1711
	65	1749	1749	1749
	75	1863	1863	1863
	85	2019	2019	2019



Coefficients of Utilization - Zonal Cavity Method

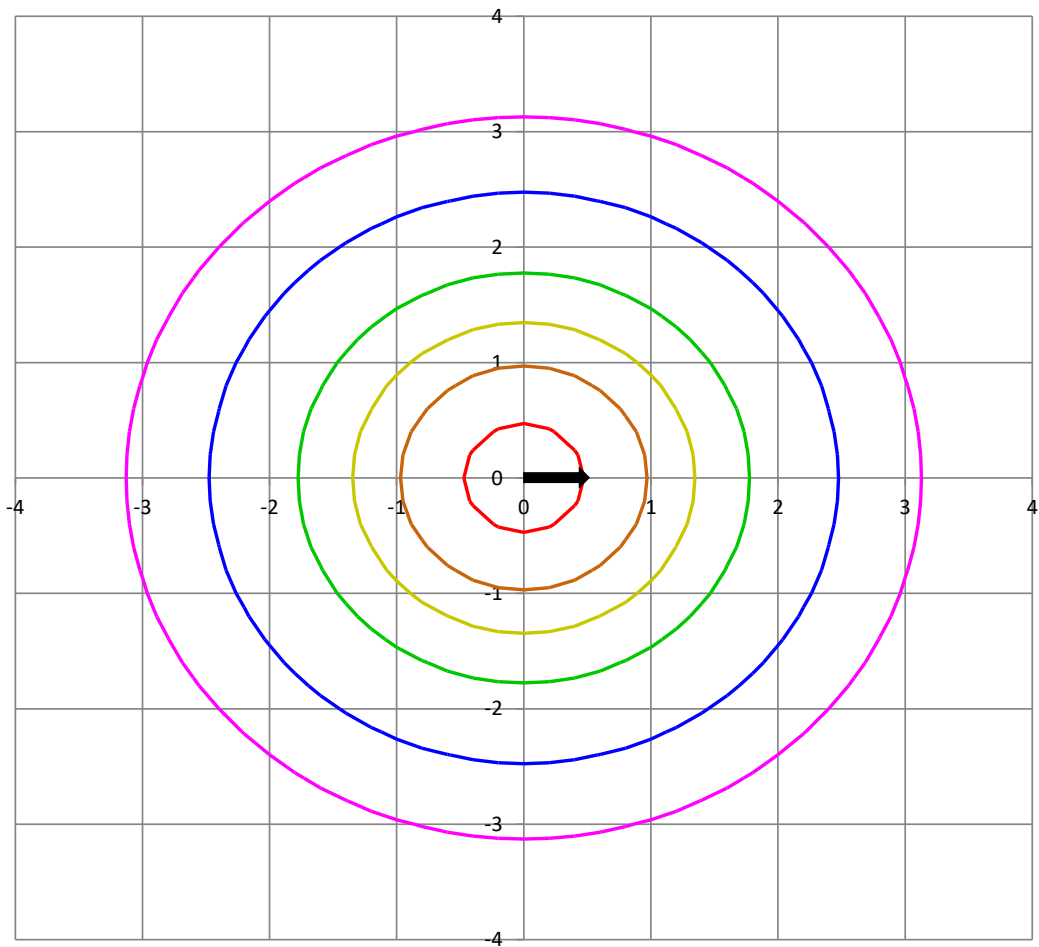
Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	113	113	113	113	108	108	108	108	97	97	97	88	88	88	79	79	79	75
1	100	94	89	84	95	89	84	80	80	77	73	72	69	66	65	62	60	56
2	90	80	73	66	85	76	69	63	69	63	58	62	57	53	55	51	48	45
3	81	70	61	54	77	66	58	52	60	53	47	54	48	44	48	44	40	36
4	74	61	52	45	70	58	50	43	53	45	40	47	41	37	42	38	34	30
5	68	54	45	38	64	52	43	37	47	40	34	42	36	31	38	33	29	26
6	62	49	39	33	59	46	38	32	42	35	29	38	32	27	34	29	25	22
7	58	44	35	29	54	42	34	28	38	31	26	35	28	24	31	26	22	20
8	54	40	31	25	51	38	30	25	35	28	23	32	26	21	29	24	20	17
9	50	36	28	23	47	35	27	22	32	25	20	29	23	19	26	21	18	16
10	47	34	26	20	44	32	25	20	29	23	18	27	21	17	25	20	16	14

Beam and Field Information	
CIE Type:	Semi-Direct
Center Beam Intensity:	487.2 Candela
Central Cone Intensity:	486 Candela
Beam Flux:	1327.7 Lumens
Beam Angle (0-180):	134.8 Degrees
Beam Angle (90-270):	134.8 Degrees
Field Angle (0-180):	N/A
Field Angle (90-270):	N/A

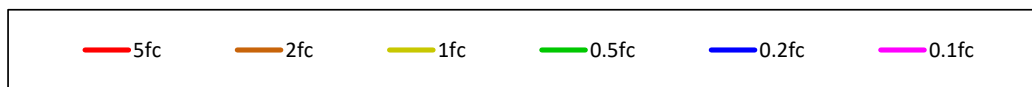


ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height



In-Situ Test

In-Situ Test Conditions

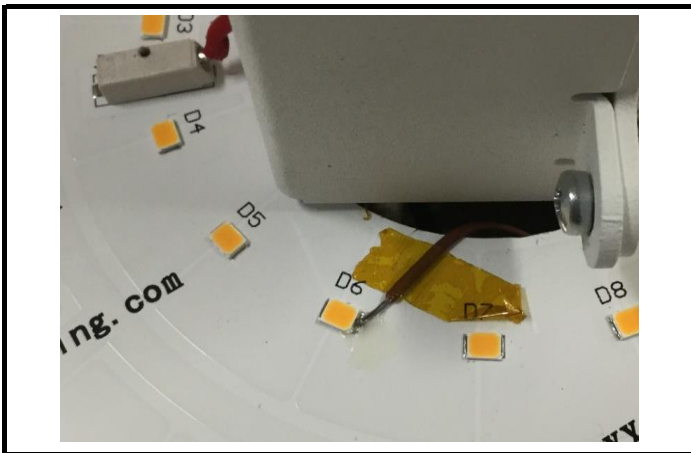
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
21.8 °C	120.0 VAC	N/A	N/A	N/A	60 Hz	N/A

Summary of Results

LED Temperature: 56.4 °C
 Driver Temperature: 67.8 °C
 Measured LED Current: 0.05730 A

Temperatures are offset to an ambient temperature of 25°C as described in UL1598-2008

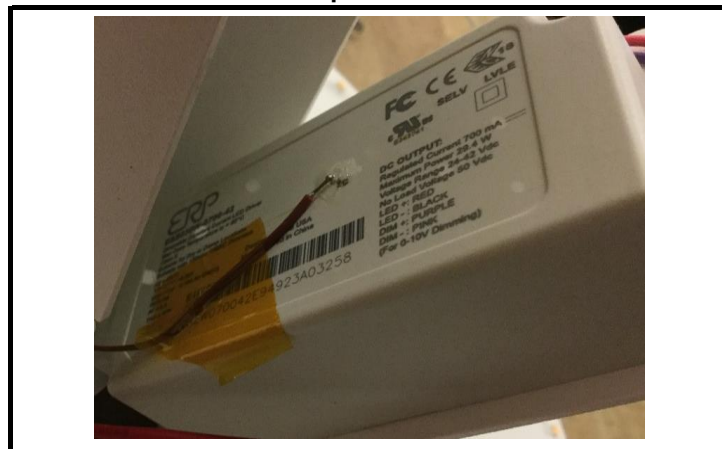
LED Temperature Location



Thermocouple Reference



Driver Temperature Location



ANSI/IES TM-30-18 Color Rendition Report

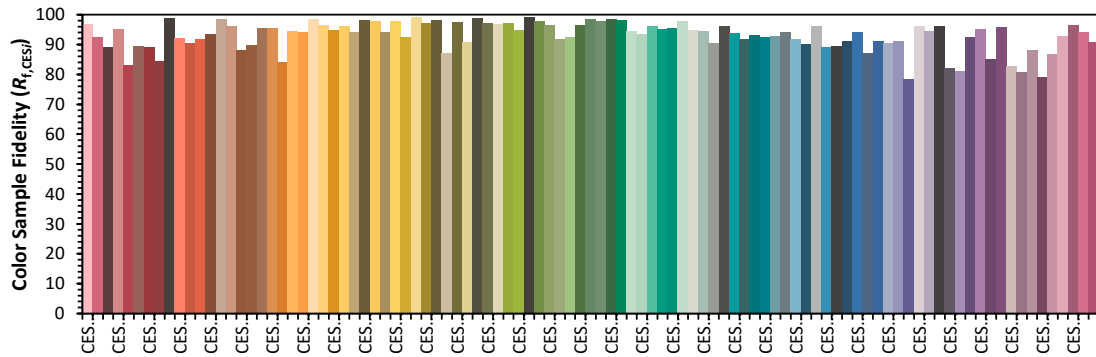
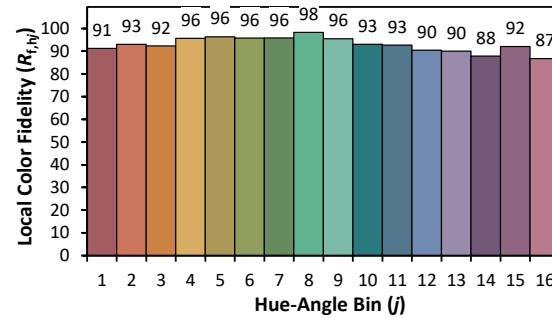
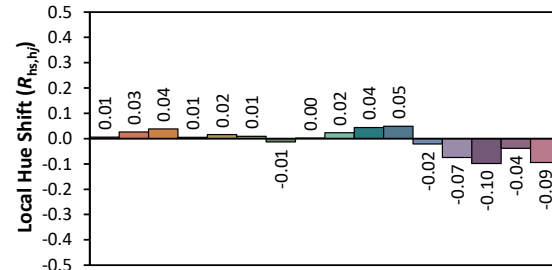
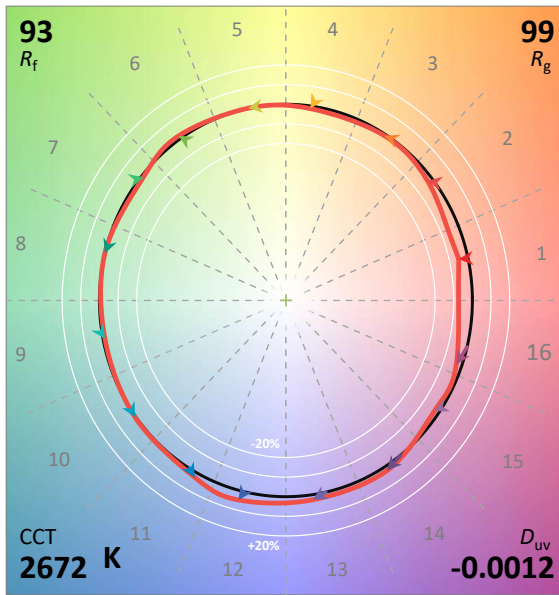
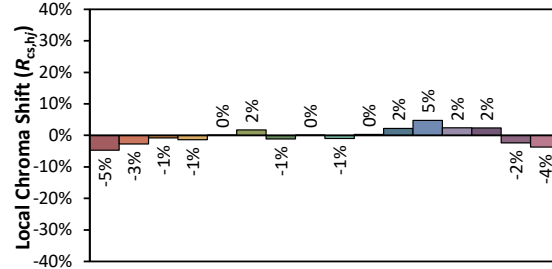
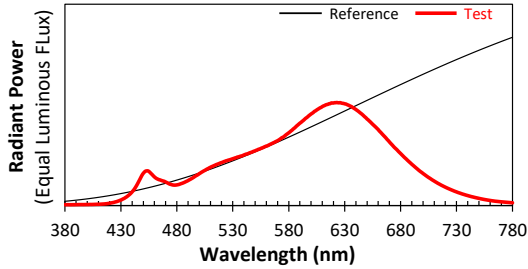
Date: 2025-03-14

Manufacturer:

RBW STUDIO LLC

Model:

Tidal Small. 2700K. Cream White.



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

x 0.4598
 y 0.4071
 u' 0.2640
 v' 0.5260

CIE 13.3-1995
(CRI)

R_a 94

R_g 61

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