



SIRS Electronics Inc
 Catalog Number
ACUVIVID-24CV27-4016



Electrical Test Conditions

Temp	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	24.01 VDC	0.1711 A	4.107 W	N/A	N/A	N/A

Summary of Results

Total Lumen Output	315.1 Lumens
Luminaire Efficacy	77.4 lm/w
Maximum Candela	107 Candela
CCT	2769 K
CRI	95.9
Duv	0.0005
TM-30 Rf	90.8
TM-30 Rg	97.4

Zonal Lumen Summary

Zone	Lumens	% Luminaire
0-30	83	27.5%
0-40	136	45.0%
0-60	241	79.7%
0-90	302	100.0%
40-90	166	55.0%
60-90	62	20.3%
90-180	0	0.0%
0-180	302	100.0%

Spacing Criteria

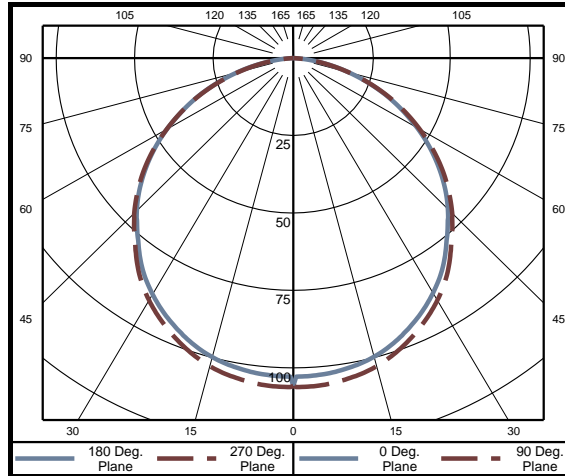
0-180	1.24
90-270	1.24

Average Luminance cd/m²

Vertical Angle	Horizontal Angle 0°
0	27930
45	25780
55	24790
65	22800
75	18950
85	9511

Cone of Light Tabulation

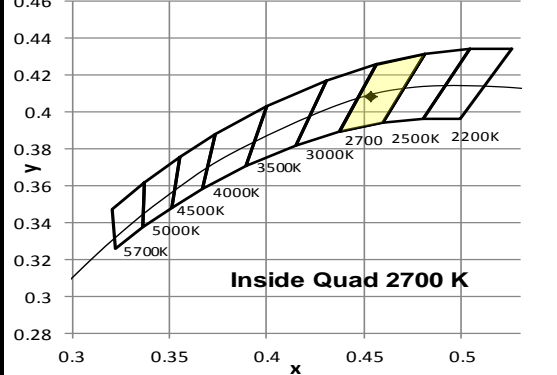
Mounting Height (Ft)	Footcandles at Nadir	Diameter (Ft)
4.00	6.62	5.09
6.00	2.94	7.64
8.00	1.65	10.2
10.0	1.06	12.7
12.0	0.735	15.3
14.0	0.540	17.8
16.0	0.413	20.4



Intensity (Candlepower) Summary

Angle	Mean CP	Lumens
0	106	
5	106	10
10	104	
15	102	29
20	100	
25	95	44
30	91	
35	85	53
40	78	
45	71	55
50	64	
55	56	50
60	47	
65	38	37
70	28	
75	19	20
80	10	
85	3	4
90	0	

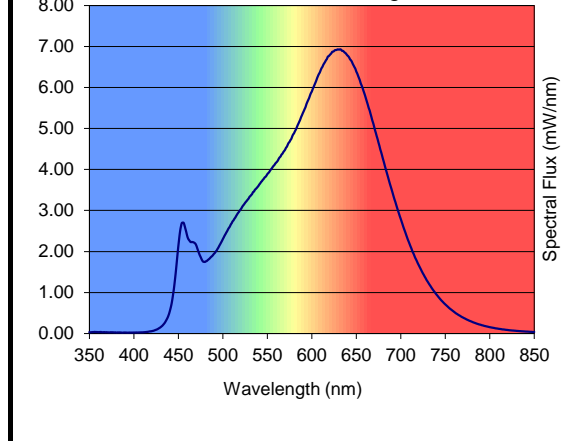
Nominal CCT Quadrangles



Color Rendering Index Details

Ra (CRI)	95.9
R1	98
R2	99.3
R3	98.5
R4	96.1
R5	97.3
R6	96.3
R7	93.2
R8	88.8
R9	77.7
R10	99.8
R11	98.4
R12	84.6
R13	99.2
R14	99.6

Flux vs Wavelength



Chromaticity Coordinates

Chromaticity (x)	0.4536
Chromaticity (y)	0.4082
Chromaticity (u)	0.2595
Chromaticity (v)	0.3503
Chromaticity (u')	0.2595
Chromaticity (v')	0.5255
Duv	0.0005

Testing was performed in accordance with LM-79-08
 The results contained in this summary pertain only to report #11714176.20



UL Verification Services Inc.
7036 Snowdrift Road
Allentown, PA 18106
610-774-1300



Photometric Test Report

Relevant Standards
IES LM-79-2008, ANSI C82.77-2002, CIE 13.3-1995
CIE 15-2004, ANSI C78.377-2015, IES TM-30-2015

Prepared For
SIRS Electronics Inc
4705 Hwy 36 S
STE 5
Rosenberg, TX 77471
United States

Catalog Number
ACUVIVID-24CV27-4016
Order Number
11714176
Test Number
11714176.20

Test Date

2017-04-10 - 2017-04-13

Prepared By

Kevin Rodriguez, Technician

Approved By

Justin Benner, Project Handler

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 6
Candela Tabulation / Average Luminance	Page 7
Coefficients of Utilization / Cone of Light	Page 8
ISOFootcandle Plot	Page 9

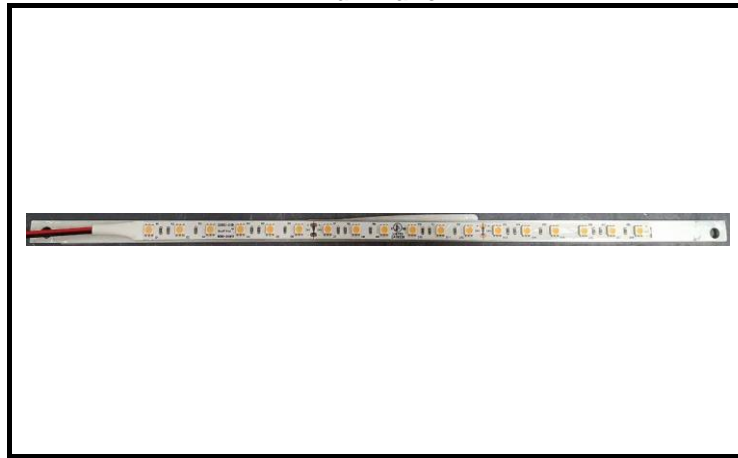
Laboratory results may not be representative of field performance
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the 4π geometry method.
Absorption correction was employed for Sphere measurement



Luminaire Description: Formed aluminum backing plate, LED strip with no lens enclosure - 1' length (304.8mm)
Lamp: 18 white LEDs
Mounting: Surface – Ceiling
Ballast/Driver: None

Luminaire



Luminaire Characteristics

Luminous Length: 11.75 in.
Luminous Width: 0.5000 in.

Summary of Results

Integrating Sphere

Luminous Flux: 315 Lumens
Efficacy: 77.4 lm/w
CCT: 2769 K
CRI (Ra): 95.9

Distribution

Total Luminaire Output: 302.4 Lumens
Luminaire Efficacy: 73.6 lm/w
Maximum Candela: 107 Candela

Electrical Data at 24 VDC

Test Temperature: 24.6 °C
Voltage: 23.99 VDC
Current: 0.1696 A
Power: 4.070 W



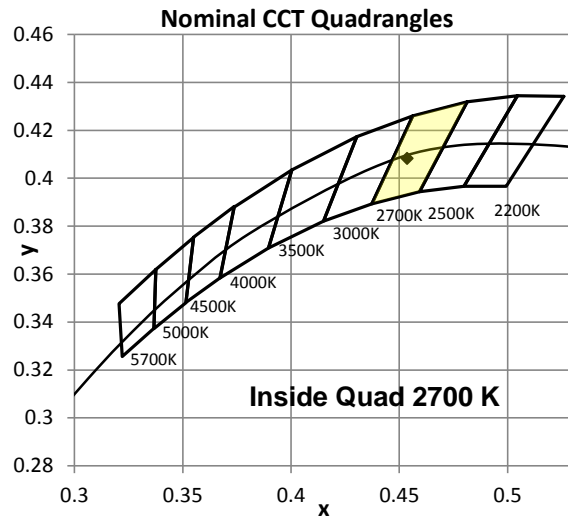
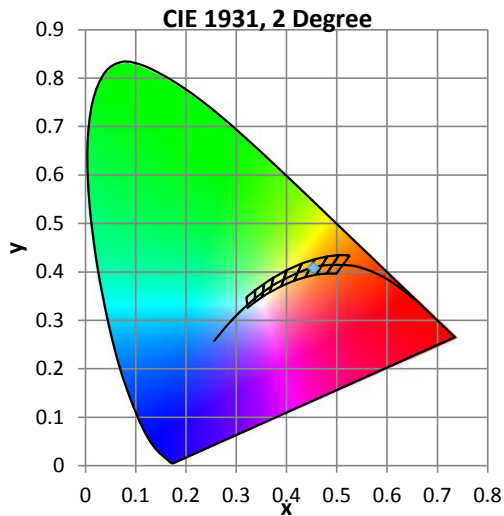
Color Quality - Integrating Sphere

Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	23.99 VDC	0.1696 A	4.070 W	N/A	N/A	N/A

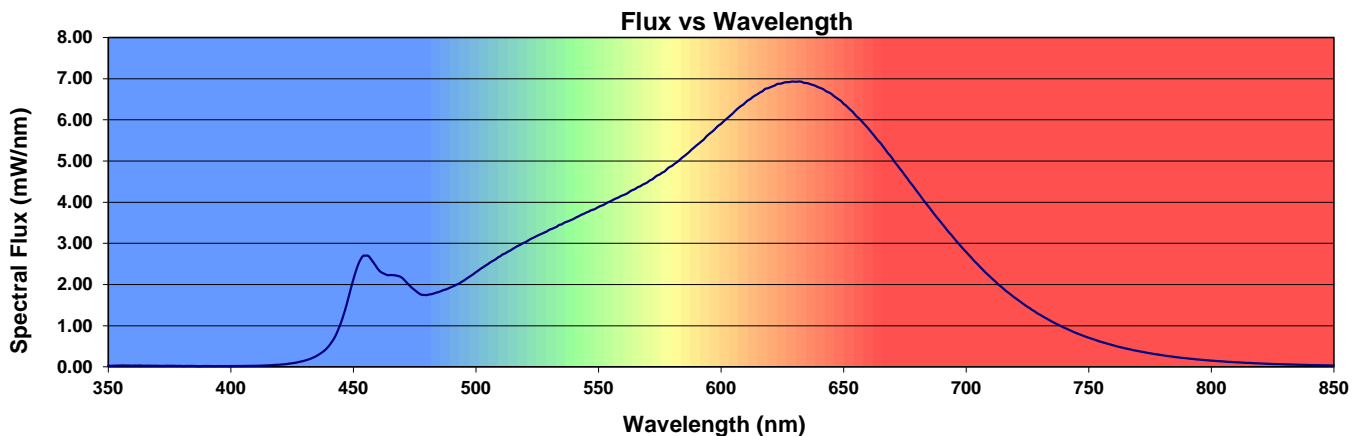
Summary of Results

Total Output:	315 Lumens	Chromaticity (x):	0.4536
Efficacy:	77.4 lm/w	Chromaticity (y):	0.4082
CCT:	2769 K	Chromaticity (u'):	0.2595
CRI (Ra):	95.9	Chromaticity (v'):	0.5255
CRI (R9):	77.7	TM-30 R_f:	90.8
Peak Wavelength:	631.3 nm	TM-30 R_g:	97.4
Dominant Wavelength:	584 nm	Duv:	0.0005
S/P Ratio:	1.373		



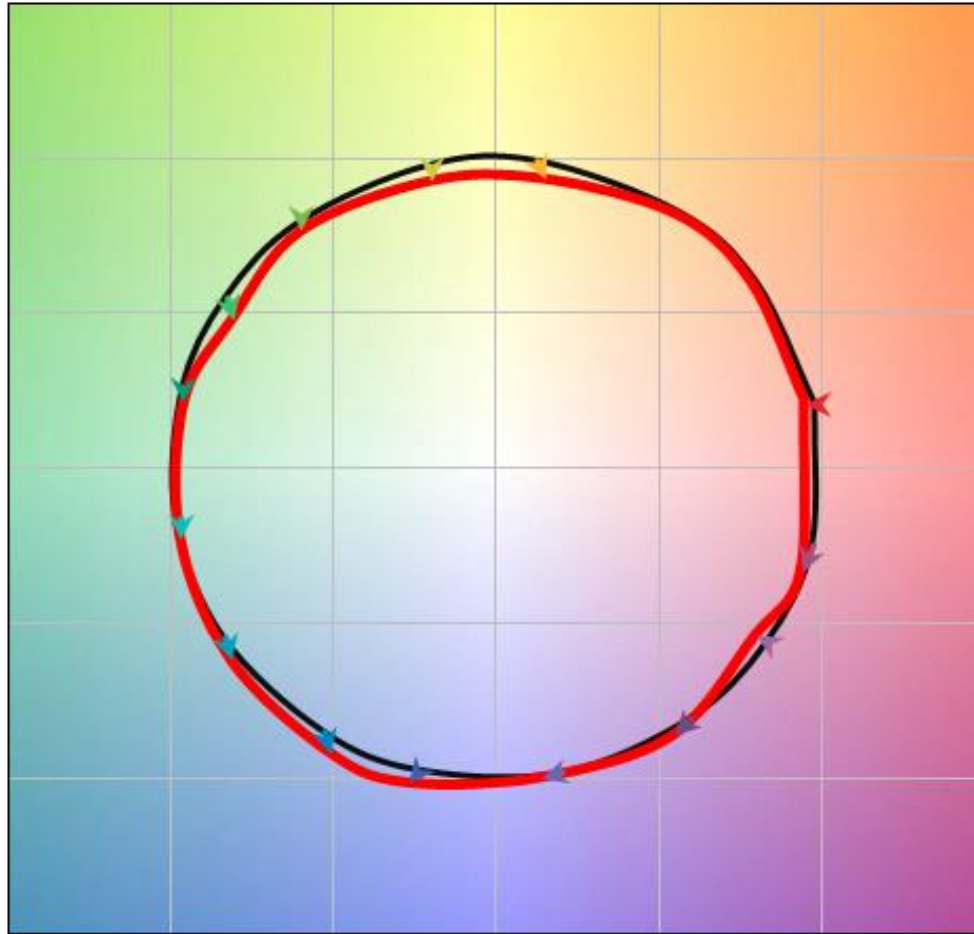
Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
95.9	98.0	99.3	98.5	96.1	97.3	96.3	93.2	88.8	77.7	99.8	98.4	84.6	99.2	99.6





COLOR VECTOR GRAPHIC



— Reference Illuminant — Test Source

HUE ANGLE ANALYSIS															
Hue Bin (<i>j</i>)	Count (<i>m</i>)	Average of Test SPD		Average of Ref SPD		Average ΔE	Average θ	Color Distortion Icon Parameters						R_{thj}	Change of Chroma
		<i>a'</i>	<i>b'</i>	<i>a'</i>	<i>b'</i>			<i>da</i> _relative	<i>db</i> _relative	<i>path_x</i> _ref	<i>path_y</i> _ref	<i>path_x</i> _test	<i>path_y</i> _test		
1	11	23.44	5.67	24.24	5.35	1.181	0.21	-0.03	0.01	0.98	0.21	0.95	0.22	91	-3%
2	7	20.31	15.10	20.70	15.13	0.686	0.65	-0.02	0.00	0.80	0.60	0.78	0.60	95	-1%
3	6	14.70	22.55	14.93	22.73	0.512	0.97	-0.01	-0.01	0.56	0.83	0.55	0.82	96	-1%
4	11	3.19	18.96	2.74	20.14	1.307	1.45	0.02	-0.06	0.12	0.99	0.15	0.93	90	-5%
5	8	-2.72	15.69	-2.90	16.51	0.902	1.78	0.01	-0.05	-0.21	0.98	-0.20	0.93	93	-5%
6	6	-12.71	15.87	-12.82	16.47	0.711	2.22	0.01	-0.03	-0.61	0.79	-0.60	0.77	95	-3%
7	2	-18.51	10.94	-18.98	12.55	1.687	2.56	0.02	-0.07	-0.83	0.55	-0.81	0.48	87	-6%
8	4	-21.30	4.26	-21.41	5.13	0.895	2.88	0.01	-0.04	-0.97	0.26	-0.96	0.22	93	-1%
9	6	-23.65	-5.58	-24.01	-4.06	1.575	-2.98	0.01	-0.06	-0.99	-0.16	-0.97	-0.22	88	0%
10	8	-16.94	-13.10	-17.45	-11.54	1.671	-2.57	0.02	-0.07	-0.84	-0.54	-0.82	-0.62	87	2%
11	7	-10.13	-17.36	-10.56	-16.03	1.401	-2.13	0.02	-0.07	-0.53	-0.85	-0.51	-0.91	89	5%
12	5	-6.92	-22.11	-6.18	-21.21	1.288	-1.82	-0.03	-0.04	-0.24	-0.97	-0.28	-1.01	90	5%
13	4	2.46	-18.12	3.67	-17.84	1.302	-1.37	-0.07	-0.02	0.20	-0.98	0.13	-1.00	90	0%
14	4	9.01	-14.66	9.93	-13.72	1.472	-0.93	-0.05	-0.06	0.59	-0.80	0.54	-0.86	89	2%
15	3	18.45	-12.47	19.27	-12.96	1.344	-0.59	-0.04	0.02	0.83	-0.56	0.79	-0.54	90	-4%
16	7	16.63	-5.37	17.23	-3.95	1.808	-0.25	-0.03	-0.08	0.97	-0.25	0.93	-0.33	86	-2%



Distribution - Goniophotometer

Distribution Test Conditions

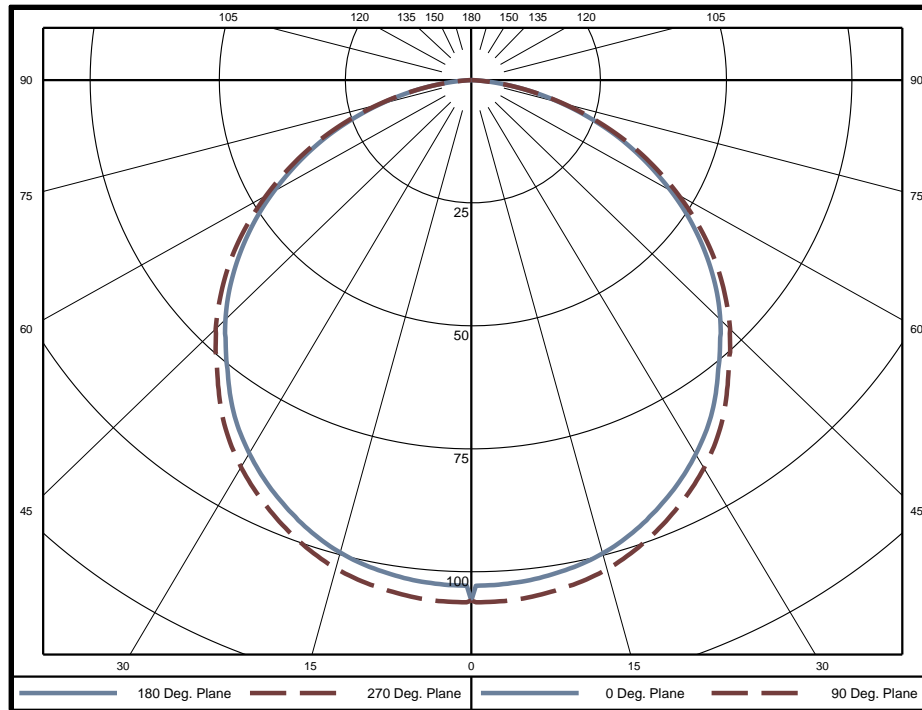
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	24.01 VDC	0.1711 A	4.107 W	N/A	N/A	N/A

Summary of Results

Spacing Criteria
 0-180: 1.24
 90-270: 1.24

Total Lumen Output: 302.4 Lumens
Luminaire Efficacy: 73.6 lm/w
Maximum Candela: 107 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	2.53	0.8%	60-65	20.55	6.8%	120-125	0	0.0%
5-10	7.51	2.5%	65-70	16.75	5.5%	125-130	0	0.0%
10-15	12.29	4.1%	70-75	12.36	4.1%	130-135	0	0.0%
15-20	16.66	5.5%	75-80	7.80	2.6%	135-140	0	0.0%
20-25	20.45	6.8%	80-85	3.56	1.2%	140-145	0	0.0%
25-30	23.58	7.8%	85-90	0.51	0.2%	145-150	0	0.0%
30-35	25.91	8.6%	90-95	0	0.0%	150-155	0	0.0%
35-40	27.21	9.0%	95-100	0	0.0%	155-160	0	0.0%
40-45	27.63	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	27.36	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	26.03	8.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	23.71	7.8%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	136	45.0%
0-60	241	79.7%
0-90	302	100.0%
90-180	0	0.0%



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	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9	105.9
	5	102.5	105.1	106.4	106.4	106.0	106.4	106.4	105.1	102.5	105.1	106.4	106.4	106.0	106.4	106.4	105.1
	10	101.5	104.1	105.3	105.3	104.8	105.3	105.3	104.1	101.5	104.1	105.3	105.3	104.8	105.3	105.3	104.1
	15	99.6	102.3	103.4	103.4	103.0	103.4	103.4	102.3	99.6	102.3	103.4	103.4	103.0	103.4	103.4	102.3
	20	96.6	99.3	100.2	100.2	99.8	100.2	100.2	99.3	96.6	99.3	100.2	100.2	99.8	100.2	100.2	99.3
	25	92.7	95.4	96.2	96.2	95.8	96.2	96.2	95.4	92.7	95.4	96.2	96.2	95.8	96.2	96.2	95.4
	30	88.0	90.8	91.4	91.4	91.1	91.4	91.4	90.8	88.0	90.8	91.4	91.4	91.1	91.4	91.4	90.8
	35	82.4	85.2	85.6	85.7	85.4	85.7	85.6	85.2	82.4	85.2	85.6	85.7	85.4	85.7	85.6	85.2
	40	75.6	78.2	78.4	78.5	78.3	78.5	78.4	78.2	75.6	78.2	78.4	78.5	78.3	78.5	78.4	78.2
	45	69.1	71.7	71.8	71.7	71.7	71.7	71.8	71.7	69.1	71.7	71.8	71.7	71.7	71.7	71.8	71.7
	50	61.9	64.3	64.3	64.2	64.1	64.2	64.3	64.3	61.9	64.3	64.3	64.2	64.1	64.2	64.3	64.3
	55	53.9	56.1	56.1	55.9	55.9	55.9	56.1	56.1	53.9	56.1	56.1	55.9	55.9	55.9	56.1	56.1
	60	45.3	47.1	47.1	47.0	47.0	47.0	47.1	47.1	45.3	47.1	47.1	47.0	47.0	47.0	47.1	47.1
	65	36.5	38.0	37.9	37.8	37.9	37.8	37.9	38.0	36.5	38.0	37.9	37.8	37.9	37.8	37.9	38.0
	70	27.6	28.6	28.5	28.4	28.4	28.4	28.5	28.6	27.6	28.6	28.5	28.4	28.4	28.4	28.5	28.6
	75	18.6	19.2	19.1	18.9	19.0	18.9	19.1	19.2	18.6	19.2	19.1	18.9	19.0	18.9	19.1	19.2
80	10.3	10.5	10.4	10.2	10.2	10.2	10.4	10.5	10.3	10.5	10.4	10.2	10.2	10.2	10.4	10.5	
85	3.1	3.3	3.2	3.0	2.9	3.0	3.2	3.3	3.1	3.3	3.2	3.0	2.9	3.0	3.2	3.3	
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	

Average Luminance (cd/m²)
Horizontal Angle (Degrees)

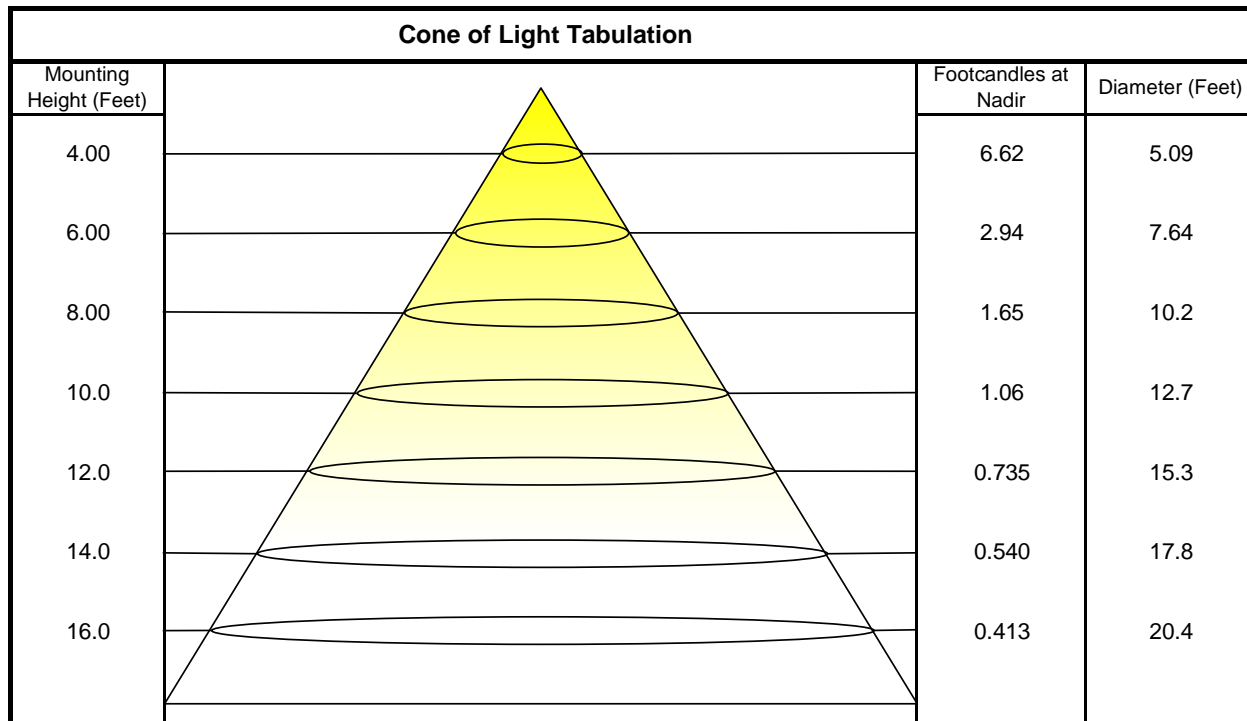
Vertical Angle (Degrees)	0	45	90	
	0	27930	27930	27930
	45	25780	26800	26750
	55	24790	25780	25720
	65	22800	23680	23640
	75	18950	19480	19340
	85	9511	9602	8796



Utilization of Lumens - 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 Lumens delivered to the task surface **																	
0	360	360	360	360	352	352	352	352	336	336	336	322	322	322	309	309	309	302
1	329	315	302	291	321	308	297	286	296	286	277	284	276	269	273	267	261	254
2	300	275	254	237	292	269	250	234	258	242	229	248	235	223	239	228	218	212
3	273	241	217	197	265	236	214	195	227	208	192	219	202	188	211	197	185	178
4	250	214	187	167	243	209	185	165	202	180	163	195	176	161	188	172	159	152
5	230	191	163	143	223	187	162	143	181	158	141	175	155	139	169	152	138	131
6	212	172	144	125	206	169	143	124	163	140	123	158	138	122	153	135	121	115
7	196	155	129	110	191	153	128	110	148	126	109	144	123	108	140	121	107	101
8	183	142	116	98	178	140	115	98	136	113	97	132	112	97	128	110	96	90
9	171	130	105	88	166	128	104	88	125	103	88	122	102	87	118	100	87	81
10	160	120	96	80	156	118	95	80	115	94	79	113	93	79	110	92	79	73

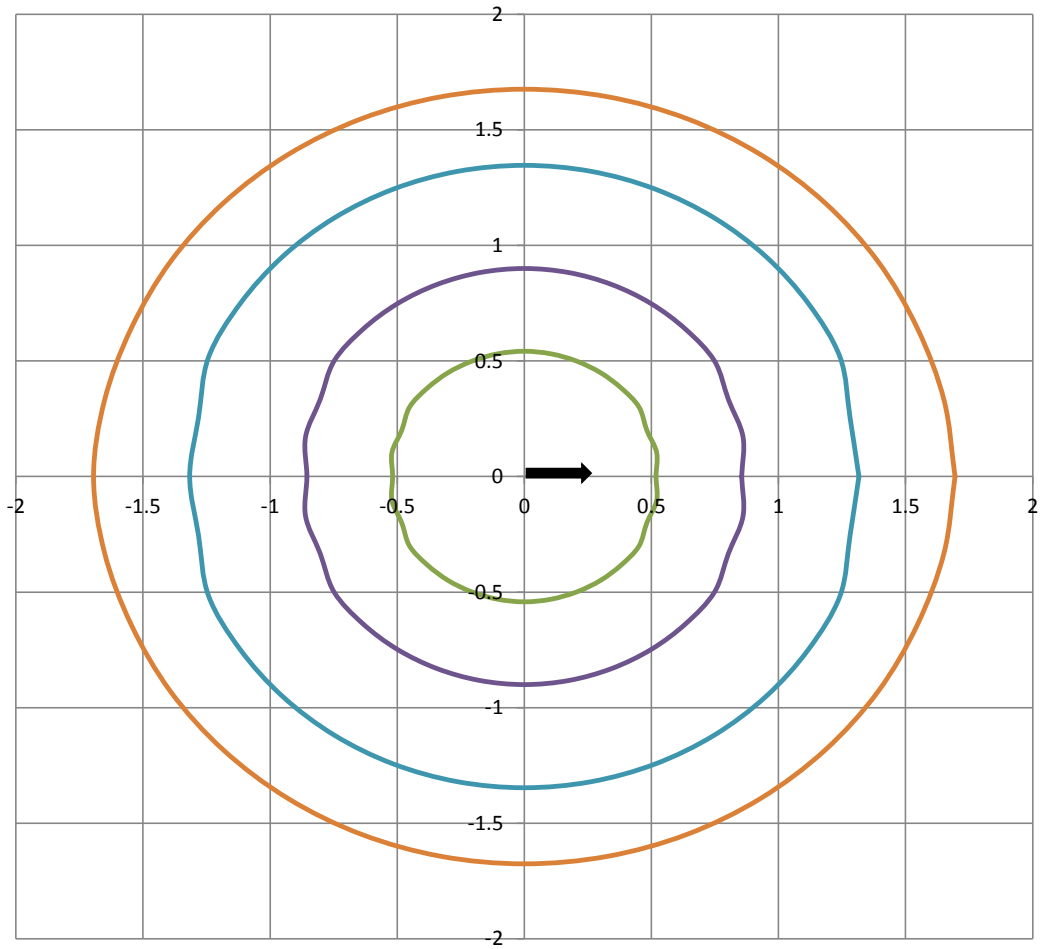
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	105.9 Candela
Central Cone Intensity:	106 Candela
Beam Flux:	225.0 Lumens
Beam Angle (0-180):	111.2 Degrees
Beam Angle (90-270):	113.4 Degrees
Field Angle (0-180):	159.6 Degrees
Field Angle (90-270):	159.6 Degrees





ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

