

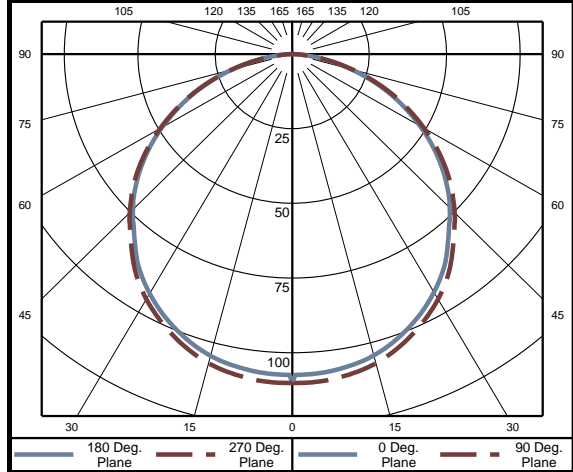


**SIRS Electronics Inc**  
 Catalog Number  
**ACUVIVID-24CV40-4016**



Electrical Test Conditions						
Temp	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	24.00 VDC	0.1704 A	4.089 W	N/A	N/A	N/A

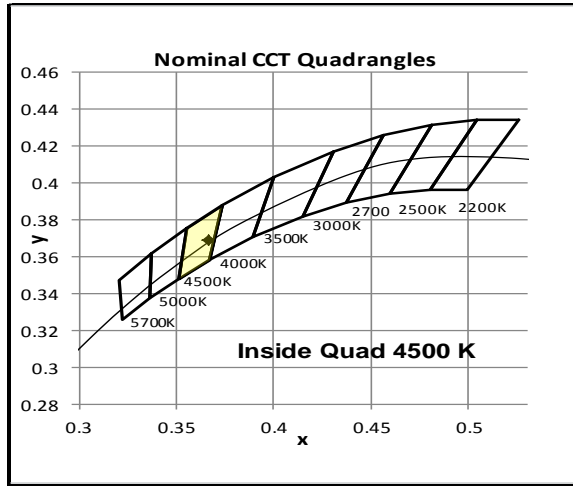
Summary of Results	
Total Lumen Output	329.8 Lumens
Luminaire Efficacy	81.8 lm/w
Maximum Candela	111 Candela
CCT	4345 K
CRI	96.3
Duv	0.0005
TM-30 Rf	88.4
TM-30 Rg	97.2



Intensity (Candlepower) Summary		
Angle	Mean CP	Lumens
0	110	
5	110	10
10	109	
15	107	30
20	104	
25	100	46
30	95	
35	90	56
40	83	
45	76	58
50	68	
55	60	53
60	51	
65	41	41
70	31	
75	21	23
80	12	
85	5	6
90	0	

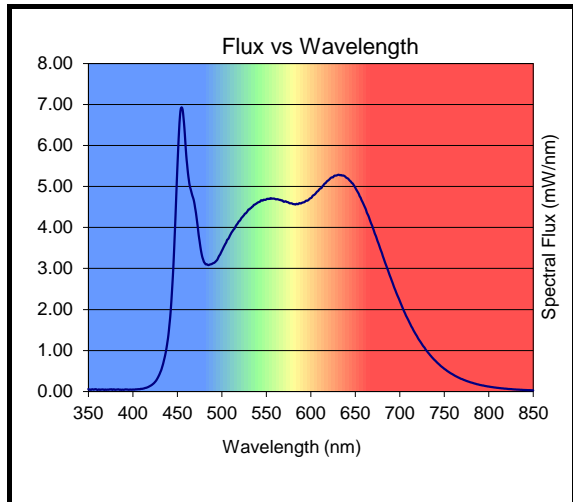
Zonal Lumen Summary		
Zone	Lumens	% Luminaire
0-30	87	26.9%
0-40	143	44.2%
0-60	255	78.8%
0-90	323	100.0%
40-90	180	55.8%
60-90	69	21.2%
90-180	0	0.0%
0-180	323	100.0%

Spacing Criteria	
0-180	1.26
90-270	1.26



Color Rendering Index Details	
Ra (CRI)	96.3
R1	98.1
R2	98.7
R3	98.9
R4	93.6
R5	95.2
R6	96.3
R7	94.5
R8	95.1
R9	97.8
R10	99.1
R11	95.9
R12	70.4
R13	98.3
R14	98.8

Average Luminance cd/m <sup>2</sup>	
Vertical Angle	Horizontal Angle 0°
0	29030
45	27470
55	26720
65	24900
75	21250
85	13050



Cone of Light Tabulation		
Mounting Height (Ft)	Footcandles at Nadir	Diameter (Ft)
4.00	6.88	5.14
6.00	3.06	7.71
8.00	1.72	10.3
10.0	1.10	12.9
12.0	0.764	15.4
14.0	0.561	18.0
16.0	0.430	20.6

Chromaticity Coordinates	
Chromaticity (x)	0.3666
Chromaticity (y)	0.3690
Chromaticity (u)	0.2191
Chromaticity (v)	0.3307
Chromaticity (u')	0.2191
Chromaticity (v')	0.4960
Duv	0.0005

Testing was performed in accordance with LM-79-08  
 The results contained in this summary pertain only to report #11714176.21



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-24CV40-4016**  
Order Number  
11714176  
Test Number  
11714176.21

Test Date

2017-04-13 - 2017-04-14

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

<b>Summary of Results</b>	Page 3
<b>Integrating Sphere Results</b>	Page 4
<b>Distribution Results</b>	
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

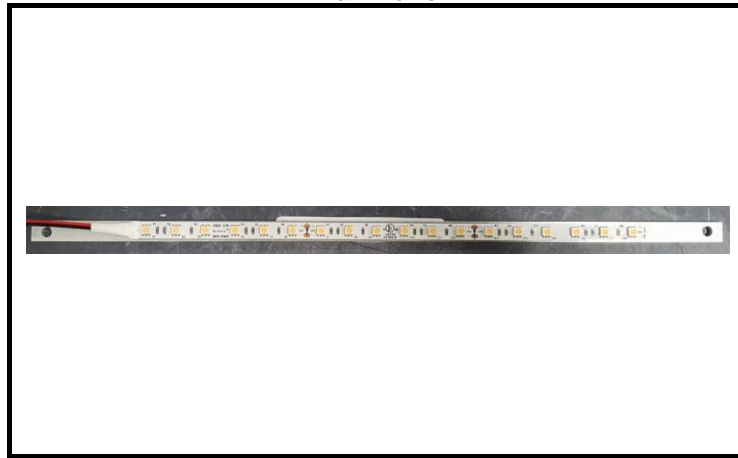
Laboratory results may not be representative of field performance  
Ballast factors have not been applied

Testing was performed in a 2-meter integrating sphere using the  $4\pi$  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: 330 Lumens  
Efficacy: 81.8 lm/w  
CCT: 4345 K  
CRI (Ra): 96.3

**Distribution**

Total Luminaire Output: 323.2 Lumens  
Luminaire Efficacy: 79 lm/w  
Maximum Candela: 111 Candela

**Electrical Data at 24 VDC**

Test Temperature: 24.7 °C  
Voltage: 23.98 VDC  
Current: 0.1681 A  
Power: 4.031 W



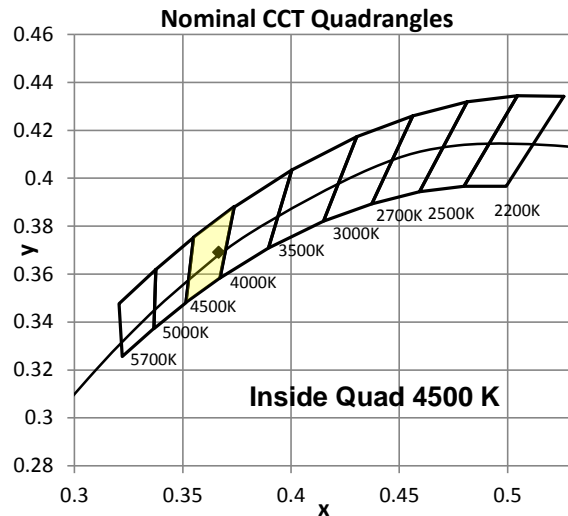
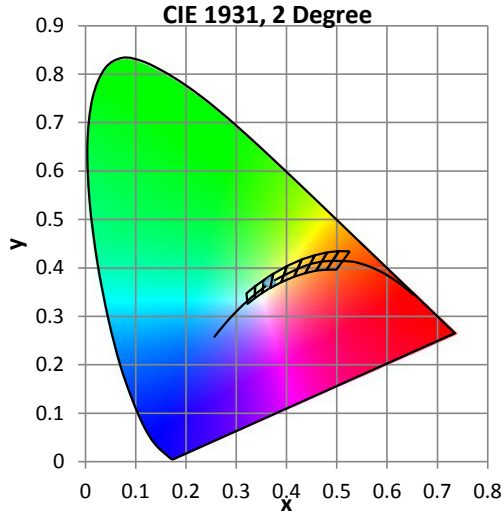
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.7 °C	23.97 VDC	0.1681 A	4.031 W	N/A	N/A	N/A

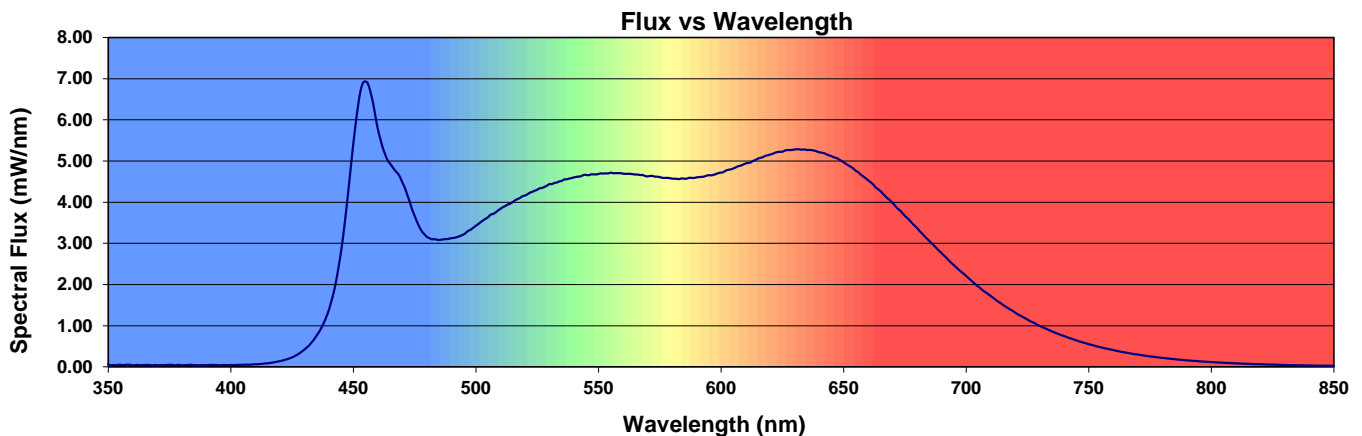
### Summary of Results

<b>Total Output:</b>	330 Lumens	<b>Chromaticity (x):</b>	0.3666
<b>Efficacy:</b>	81.8 lm/w	<b>Chromaticity (y):</b>	0.3690
<b>CCT:</b>	4345 K	<b>Chromaticity (u'):</b>	0.2191
<b>CRI (Ra):</b>	96.3	<b>Chromaticity (v'):</b>	0.4960
<b>CRI (R9):</b>	97.8	<b>TM-30 R<sub>f</sub>:</b>	88.4
<b>Peak Wavelength:</b>	454.9 nm	<b>TM-30 R<sub>g</sub>:</b>	97.2
<b>Dominant Wavelength:</b>	577.2 nm	<b>Duv:</b>	0.0005
<b>S/P Ratio:</b>	1.974		



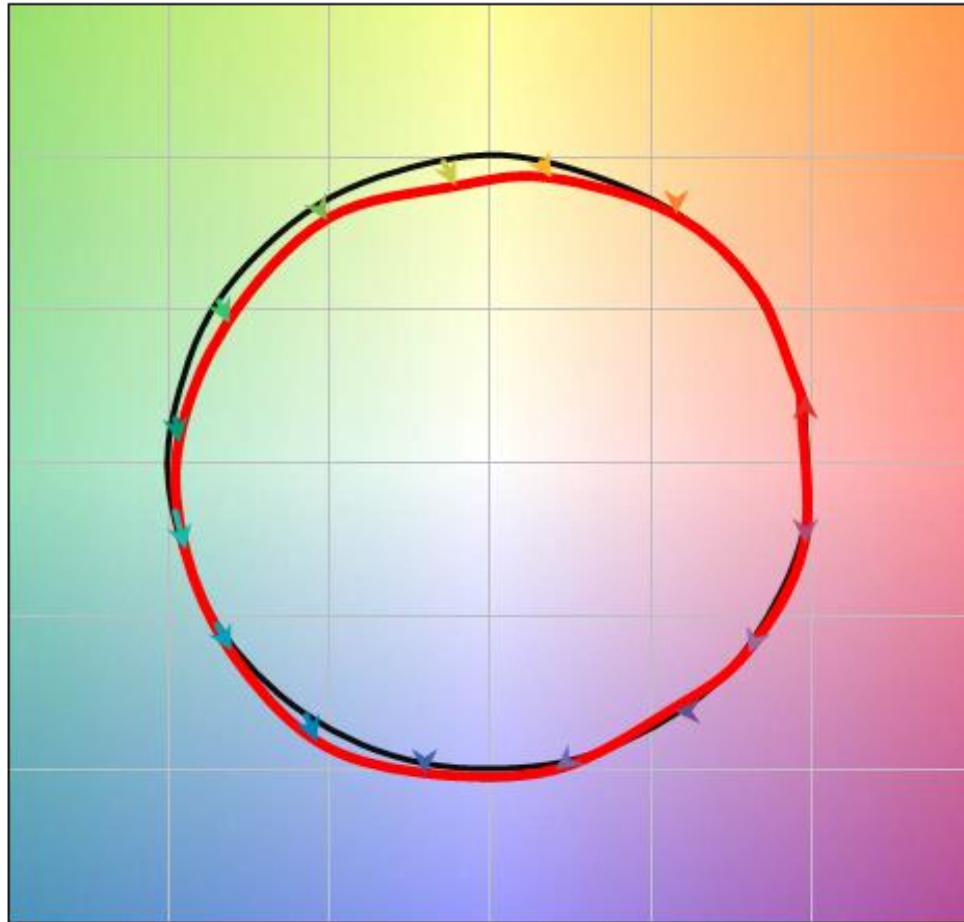
### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
96.3	98.1	98.7	98.9	93.6	95.2	96.3	94.5	95.1	97.8	99.1	95.9	70.4	98.3	98.8





## 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 $\Delta E$	Average $\theta$	Color Distortion Icon Parameters						$R_{fhj}$	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	8	23.46	5.76	23.74	5.30	1.143	0.21	-0.01	0.02	0.98	0.21	0.97	0.23	91	-1%
2	7	18.10	12.19	17.87	12.36	0.674	0.61	0.01	-0.01	0.82	0.58	0.83	0.57	95	0%
3	7	14.81	21.91	14.45	22.36	0.690	0.98	0.01	-0.02	0.56	0.83	0.57	0.81	95	-1%
4	8	4.41	21.00	3.72	22.27	1.532	1.42	0.03	-0.06	0.15	0.99	0.19	0.93	88	-5%
5	10	-1.47	17.71	-2.31	19.34	1.887	1.72	0.04	-0.08	-0.15	0.99	-0.11	0.90	86	-9%
6	7	-10.60	16.46	-11.15	17.43	1.148	2.14	0.03	-0.05	-0.54	0.84	-0.51	0.80	91	-5%
7	5	-17.56	10.07	-18.20	11.60	1.691	2.58	0.03	-0.07	-0.85	0.53	-0.82	0.46	87	-6%
8	2	-22.24	2.21	-22.68	3.97	1.842	2.99	0.02	-0.08	-0.99	0.15	-0.97	0.07	86	-3%
9	9	-16.92	-3.95	-17.59	-1.71	2.345	-2.99	0.04	-0.13	-0.99	-0.15	-0.95	-0.28	82	-1%
10	6	-20.16	-14.43	-21.23	-12.23	2.445	-2.59	0.04	-0.09	-0.85	-0.52	-0.81	-0.61	82	1%
11	8	-11.93	-20.07	-12.61	-18.18	2.027	-2.19	0.03	-0.09	-0.58	-0.82	-0.55	-0.90	85	5%
12	3	-5.81	-24.41	-5.53	-23.67	0.954	-1.78	-0.01	-0.03	-0.21	-0.98	-0.22	-1.01	93	3%
13	6	2.95	-15.87	3.43	-15.45	1.180	-1.34	-0.03	-0.03	0.23	-0.97	0.20	-1.00	91	2%
14	2	13.26	-18.65	13.72	-18.86	0.987	-0.94	-0.02	0.01	0.59	-0.81	0.57	-0.80	93	-2%
15	4	14.85	-11.90	15.12	-11.26	1.730	-0.62	-0.01	-0.03	0.82	-0.58	0.80	-0.61	87	1%
16	7	19.90	-4.67	19.87	-3.78	1.738	-0.22	0.00	-0.04	0.98	-0.22	0.98	-0.26	87	1%



## Distribution - Goniophotometer

### Distribution Test Conditions

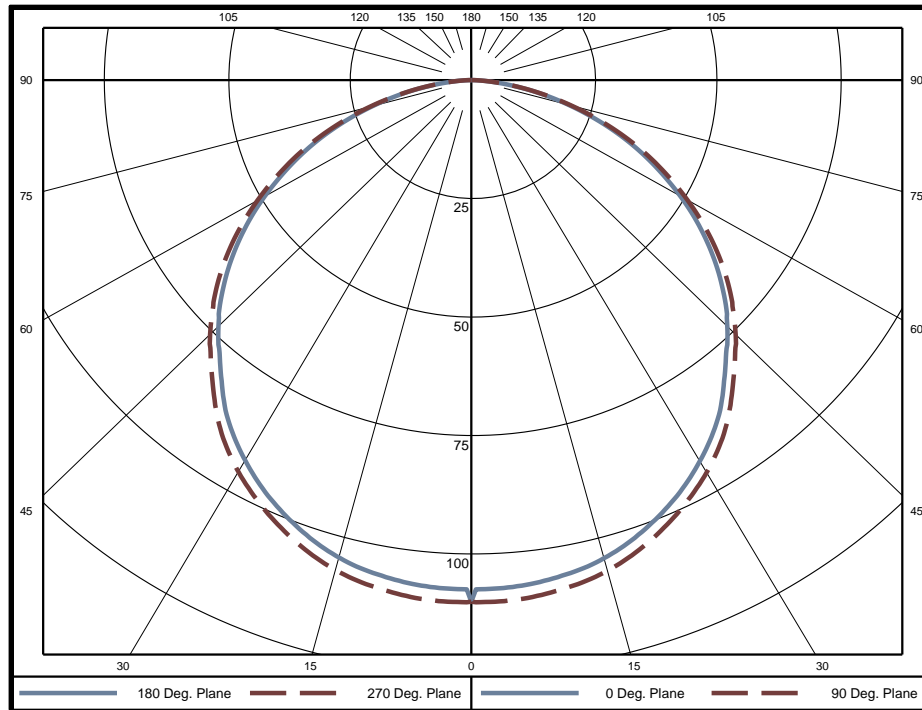
Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	24.00 VDC	0.1704 A	4.089 W	N/A	N/A	N/A

### Summary of Results

**Spacing Criteria**  
 0-180: 1.26  
 90-270: 1.26

**Total Lumen Output:** 323.2 Lumens  
**Luminaire Efficacy:** 79.0 lm/w  
**Maximum Candela:** 111 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	2.63	0.8%	60-65	22.25	6.9%	120-125	0	0.0%
5-10	7.82	2.4%	65-70	18.31	5.7%	125-130	0	0.0%
10-15	12.81	4.0%	70-75	13.71	4.2%	130-135	0	0.0%
15-20	17.39	5.4%	75-80	8.89	2.8%	135-140	0	0.0%
20-25	21.40	6.6%	80-85	4.40	1.4%	140-145	0	0.0%
25-30	24.74	7.7%	85-90	1.10	0.3%	145-150	0	0.0%
30-35	27.27	8.4%	90-95	0	0.0%	150-155	0	0.0%
35-40	28.74	8.9%	95-100	0	0.0%	155-160	0	0.0%
40-45	29.26	9.1%	100-105	0	0.0%	160-165	0	0.0%
45-50	29.08	9.0%	105-110	0	0.0%	165-170	0	0.0%
50-55	27.85	8.6%	110-115	0	0.0%	170-175	0	0.0%
55-60	25.51	7.9%	115-120	0	0.0%	175-180	0	0.0%

Zone	Lumens	% of Luminaire
0-40	143	44.2%
0-60	255	78.7%
0-90	323	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	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0
5	107.2	109.3	110.6	110.8	110.0	110.8	110.6	109.3	107.2	109.3	110.6	110.8	110.0	110.8	110.6	109.3
10	106.2	108.3	109.5	109.7	109.0	109.7	109.5	108.3	106.2	108.3	109.5	109.7	109.0	109.7	109.5	108.3
15	104.4	106.7	107.7	107.8	107.1	107.8	107.7	106.7	104.4	106.7	107.7	107.8	107.1	107.8	107.7	106.7
20	101.4	103.7	104.7	104.8	104.1	104.8	104.7	103.7	101.4	103.7	104.7	104.8	104.1	104.8	104.7	103.7
25	97.6	99.9	100.7	100.8	100.2	100.8	100.7	99.9	97.6	99.9	100.7	100.8	100.2	100.8	100.7	99.9
30	92.9	95.3	96.0	96.1	95.6	96.1	96.0	95.3	92.9	95.3	96.0	96.1	95.6	96.1	96.0	95.3
35	87.3	89.7	90.2	90.3	89.9	90.3	90.2	89.7	87.3	89.7	90.2	90.3	89.9	90.3	90.2	89.7
40	80.3	82.7	82.9	83.1	82.7	83.1	82.9	82.7	80.3	82.7	82.9	83.1	82.7	83.1	82.9	82.7
45	73.6	75.9	76.1	76.1	75.9	76.1	76.1	75.9	73.6	75.9	76.1	76.1	75.9	76.1	76.1	75.9
50	66.3	68.5	68.6	68.6	68.4	68.6	68.6	68.5	66.3	68.5	68.6	68.6	68.4	68.6	68.6	68.5
55	58.1	60.0	60.1	60.0	59.9	60.0	60.1	60.0	58.1	60.0	60.1	60.0	59.9	60.0	60.1	60.0
60	49.2	50.7	50.8	50.8	50.7	50.8	50.8	50.7	49.2	50.7	50.8	50.8	50.7	50.8	50.8	50.7
65	39.9	41.3	41.2	41.2	41.2	41.2	41.2	41.3	39.9	41.3	41.2	41.2	41.2	41.2	41.2	41.3
70	30.4	31.4	31.4	31.3	31.3	31.3	31.4	31.4	30.4	31.4	31.4	31.3	31.3	31.3	31.4	31.4
75	20.9	21.5	21.4	21.3	21.4	21.3	21.4	21.5	20.9	21.5	21.4	21.3	21.4	21.3	21.4	21.5
80	11.9	12.2	12.1	12.1	12.1	12.1	12.1	12.2	11.9	12.2	12.1	12.1	12.1	12.1	12.1	12.2
85	4.3	4.6	4.6	4.4	4.4	4.4	4.6	4.6	4.3	4.6	4.6	4.4	4.4	4.4	4.6	4.6
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/m<sup>2</sup>)**

Horizontal Angle (Degrees)

	0	45	90
0	29030	29030	29030
45	27470	28380	28310
55	26720	27620	27570
65	24900	25730	25730
75	21250	21820	21790
85	13050	13860	13440

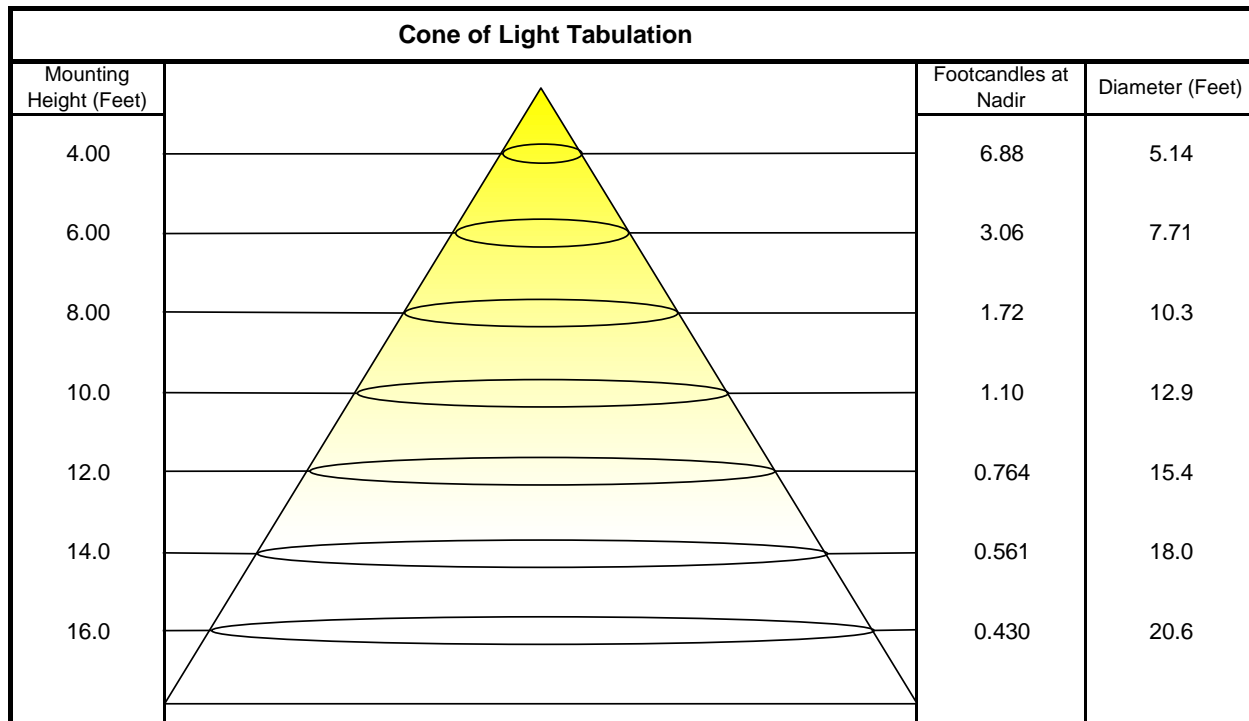




### Utilization of Lumens - Zonal Cavity Method

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	385	385	385	385	376	376	376	376	359	359	359	344	344	344	330	330	330	323
1	351	336	322	309	343	328	316	304	315	304	295	302	294	286	290	284	277	270
2	319	292	270	251	311	286	266	248	275	257	242	264	250	237	254	242	232	225
3	291	256	230	208	283	251	226	206	241	220	203	232	214	199	224	209	196	189
4	266	227	198	176	258	222	195	175	214	191	172	207	186	170	199	182	168	161
5	244	202	173	151	237	199	171	150	192	167	149	185	164	147	179	160	145	138
6	225	182	153	132	219	179	151	131	173	148	130	167	145	129	162	143	128	121
7	209	165	136	116	203	162	135	116	157	133	115	152	130	114	148	128	113	107
8	194	150	122	103	189	148	121	103	144	120	102	140	118	102	136	116	101	95
9	181	138	111	93	177	136	110	93	132	109	92	129	107	92	125	106	91	85
10	170	127	101	84	166	125	101	84	122	99	84	119	98	83	116	97	83	77

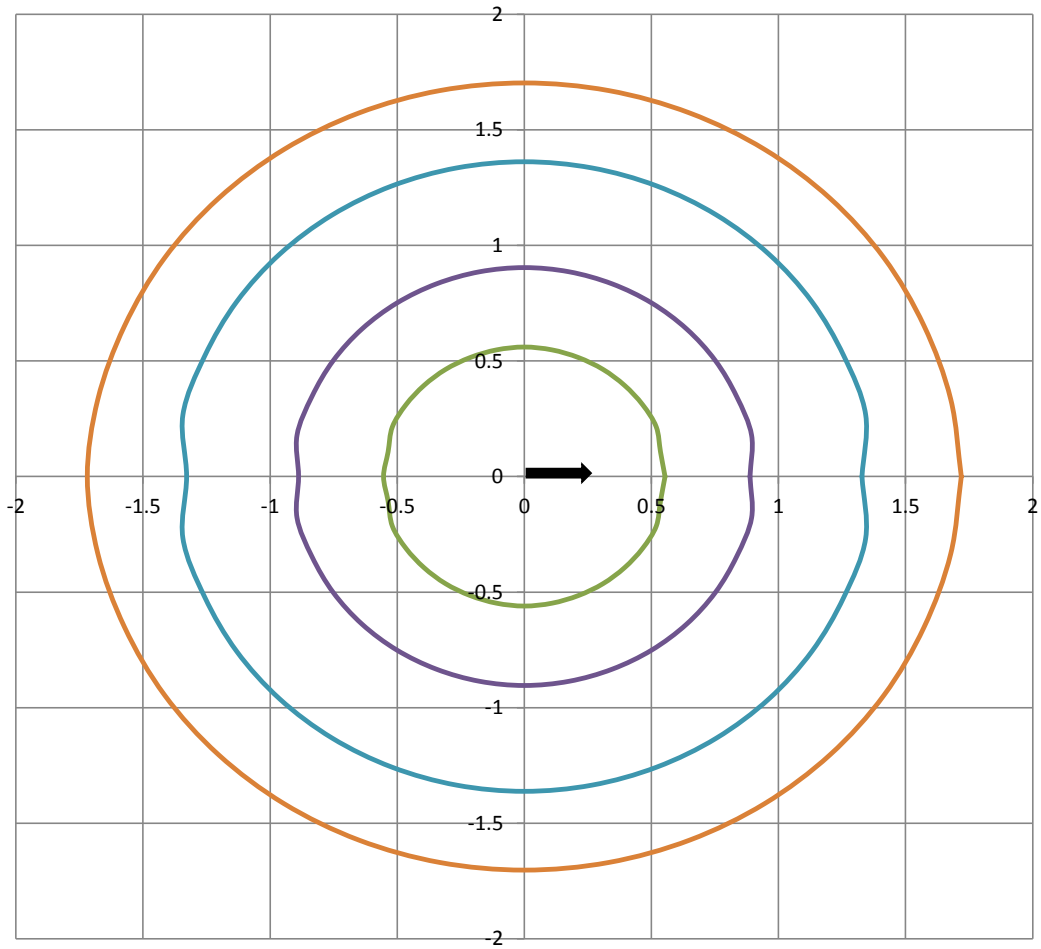
Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	110.0 Candela
Central Cone Intensity:	110 Candela
Beam Flux:	242.7 Lumens
Beam Angle (0-180):	113.5 Degrees
Beam Angle (90-270):	115.4 Degrees
Field Angle (0-180):	161.0 Degrees
Field Angle (90-270):	161.3 Degrees





### ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

