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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, UL 1598-2008  
CIE 13.3-1995, CIE 15-2004, ANSI C78.377-2017  
IES TM-30-2018

Prepared For  
**SPECTRUM LIGHTING INC**  
994 JEFFERSON ST  
FALL RIVER, MA 02721-4823  
United States

Catalog Number  
**G2208LED240L35KDS10X/TJL/GW**

Order Number  
14671091  
Test Number  
14671091.02

Test Date

2023-03-03 - 2023-03-14

Prepared By

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Approved By

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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

Absorption correction was employed for Sphere measurement

**Luminaire Description:** White aluminum housing, frosted lens enclosure  
**Lamp:** 384 LEDS  
**Mounting:** Recessed  
**Ballast/Driver:** ADVANCE CI065C135V048CDX1, 2 drivers

**Luminaire**



**Luminaire Characteristics**

Luminous Diameter: 20.00 in.  
 Luminous Height: 6.00 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 18610 Lumens  
 Efficacy: 137.86 lm/w  
 CCT: 3459 K  
 CRI (Ra): 83.0

**Distribution**

Total Luminaire Output: 18890 Lumens  
 Luminaire Efficacy: 140.1 lm/w  
 Maximum Candela: 5359 Candela

**Electrical Data at 277 VAC**

Test Temperature: 24.1 °C  
 Voltage: 277.0 VAC  
 Current: 0.5026 A  
 Power: 133.0 W  
 Power Factor: 0.955  
 Frequency: 60 Hz  
 Current THD: 9.49 %

**In-Situ**

LED #1 Temperature: 65.3 °C  
 LED #2 Temperature: 65.1 °C  
 Driver Temperature: 69.9 °C  
 Measured LED Current: 0.1132 A

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

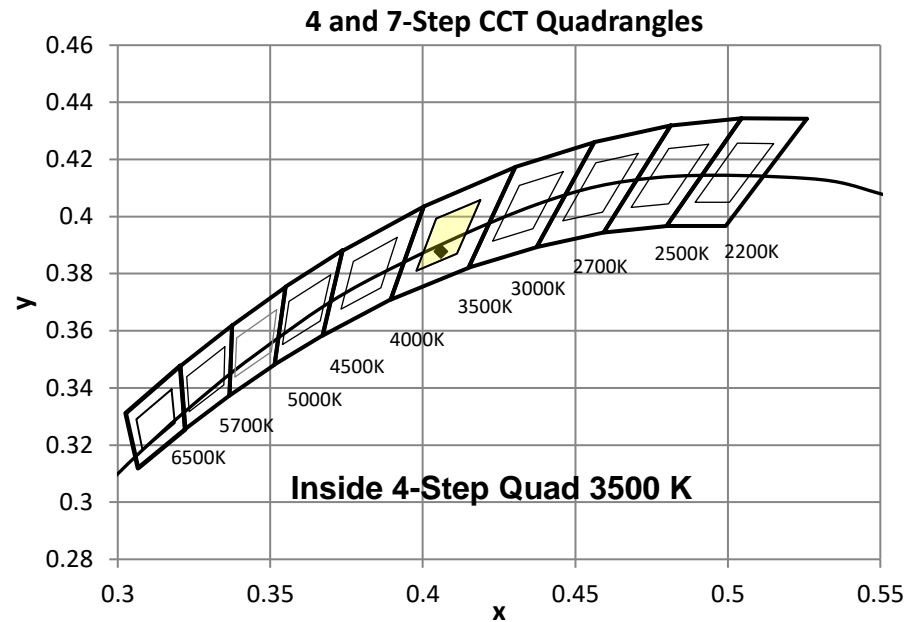
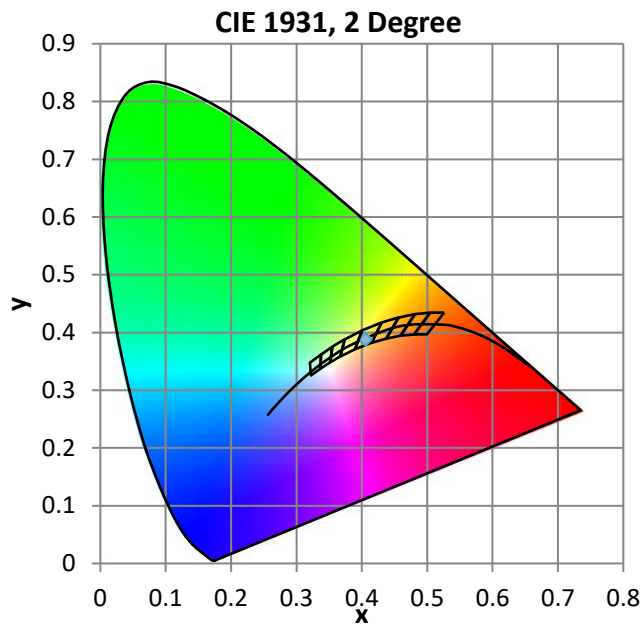
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	1.135 A	135.0 W	0.992	60 Hz	11.9 %

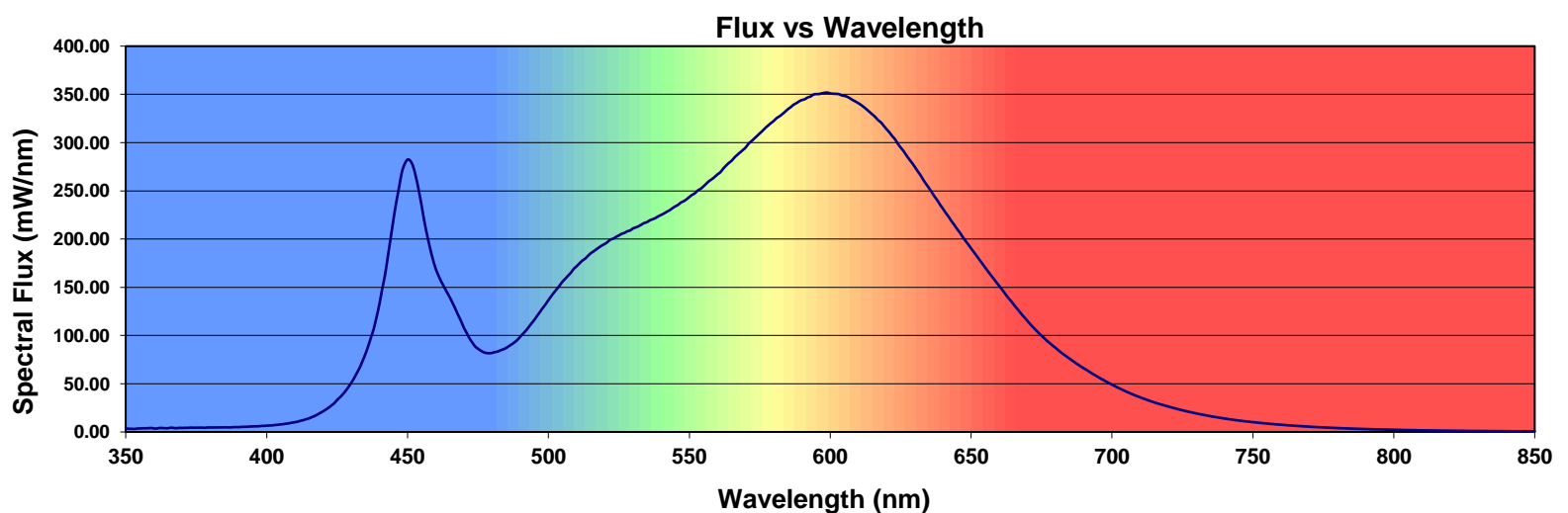
### Summary of Results

<b>Total Output:</b>	18610 Lumens	<b>Chromaticity (x):</b>	0.4059
<b>Efficacy:</b>	137.9 lm/w	<b>Chromaticity (y):</b>	0.3878
<b>CCT:</b>	3459 K	<b>Chromaticity (u'):</b>	0.2373
<b>CRI (Ra):</b>	83.0	<b>Chromaticity (v'):</b>	0.5101
<b>CRI (R9):</b>	7.6	<b>TM-30 Rf:</b>	84
<b>Peak Wavelength:</b>	599 nm	<b>TM-30 Rg:</b>	96
<b>Dominant Wavelength:</b>	555 nm	<b>TM-30 Rcs,h1:</b>	-12%
<b>S/P Ratio:</b>	1.52	<b>Duv:</b>	-0.0014
<b>M/P Ratio:</b>	0.6	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
83.0	81.4	90.2	96.0	81.5	81.8	87.2	84.0	61.6	7.6	77.2	80.9	68.8	83.6	98.2	74.9



## Distribution - Goniophotometer

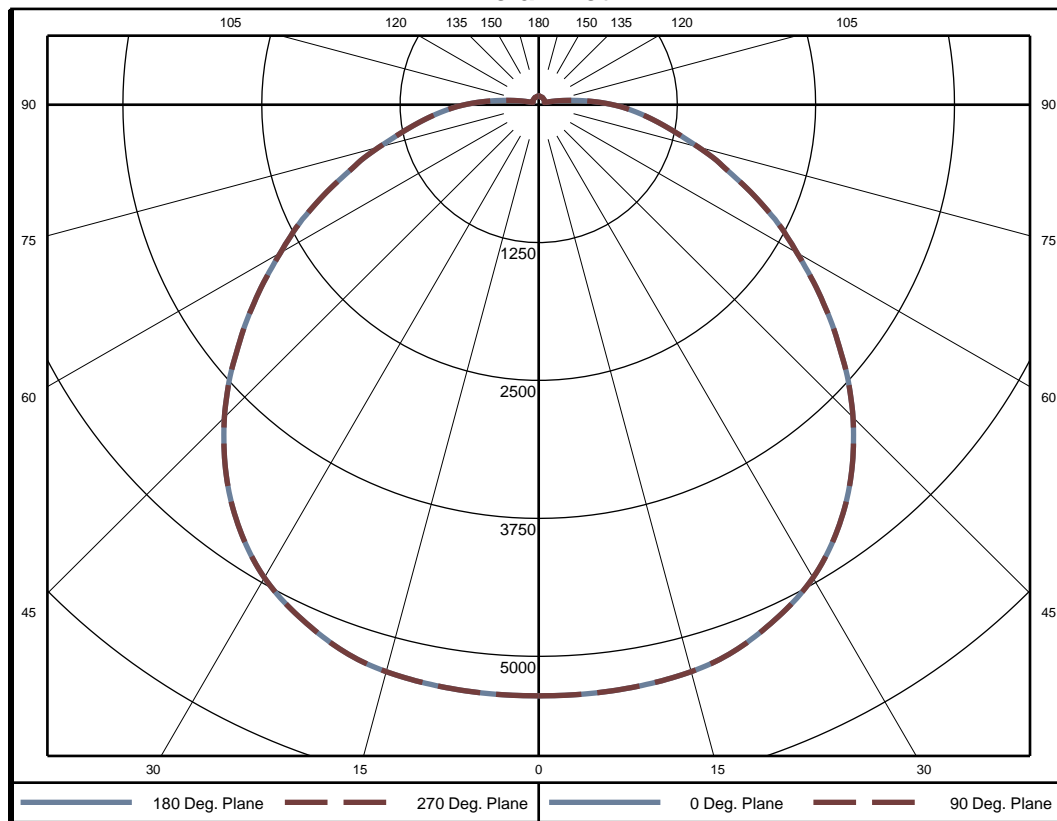
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.8 °C	120.0 VAC	1.133 A	134.9 W	0.992	60 Hz	11.8 %

### Summary of Results

<b>Spacing Criteria</b>	<b>Total Lumen Output:</b>	18890 Lumens
0-180: 1.36	<b>Luminaire Efficacy:</b>	140.1 lm/w
90-270: 1.36	<b>Maximum Candela:</b>	5359 Candela
<b>Corrected UGR (Room Dimension: X=4H, Y=8H, Reflectances: 70/50/20%, S/H: 1)</b>		
<b>Crosswise:</b> 26.1	<b>Endwise:</b> 26.1	

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	128	0.7%	60-65	1210	6.4%	120-125	29	0.2%
5-10	383	2.0%	65-70	1047	5.5%	125-130	28	0.1%
10-15	633	3.4%	70-75	876	4.6%	130-135	27	0.1%
15-20	872	4.6%	75-80	708	3.7%	135-140	25	0.1%
20-25	1087	5.8%	80-85	565	3.0%	140-145	23	0.1%
25-30	1275	6.7%	85-90	432	2.3%	145-150	21	0.1%
30-35	1422	7.5%	90-95	291	1.5%	150-155	18	0.1%
35-40	1517	8.0%	95-100	163	0.9%	155-160	15	0.1%
40-45	1554	8.2%	100-105	80	0.4%	160-165	12	0.1%
45-50	1534	8.1%	105-110	39	0.2%	165-170	9	0.0%
50-55	1459	7.7%	110-115	28	0.1%	170-175	6	0.0%
55-60	1345	7.1%	115-120	29	0.2%	175-180	2	0.0%

Zone	Lumens	% of Luminaire
0-40	7317	38.7%
0-60	13209	69.9%
0-90	18047	95.5%
90-180	845	4.5%

### 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	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358	5358
	5	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357	5357
	10	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346	5346
	15	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320	5320
	20	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249	5249
	25	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119	5119
	30	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950	4950
	35	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700
	40	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384	4384
	45	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009	4009
	50	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578	3578
	55	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133	3133
	60	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691	2691
	65	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281	2281
	70	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858	1858
	75	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492	1492
	80	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172	1172
	85	912	912	912	912	912	912	912	912	912	912	912	912	912	912	912
	90	663	663	663	663	663	663	663	663	663	663	663	663	663	663	663
	95	403	403	403	403	403	403	403	403	403	403	403	403	403	403	403
	100	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
	105	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	110	59	59	59	59	59	59	59	59	59	59	59	59	59	59	59
	115	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
	120	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
	125	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
	130	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
	135	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
	140	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
	145	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
	150	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
	155	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
	160	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
	165	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
	170	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
	175	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
	180	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)		0	45	90
	0	26440	26440	26440
	45	20240	20240	20240
	55	17440	17440	17440
	65	14640	14640	14640
	75	11730	11730	11730
	85	9621	9621	9621



### Coefficients of Utilization - Zonal Cavity Method

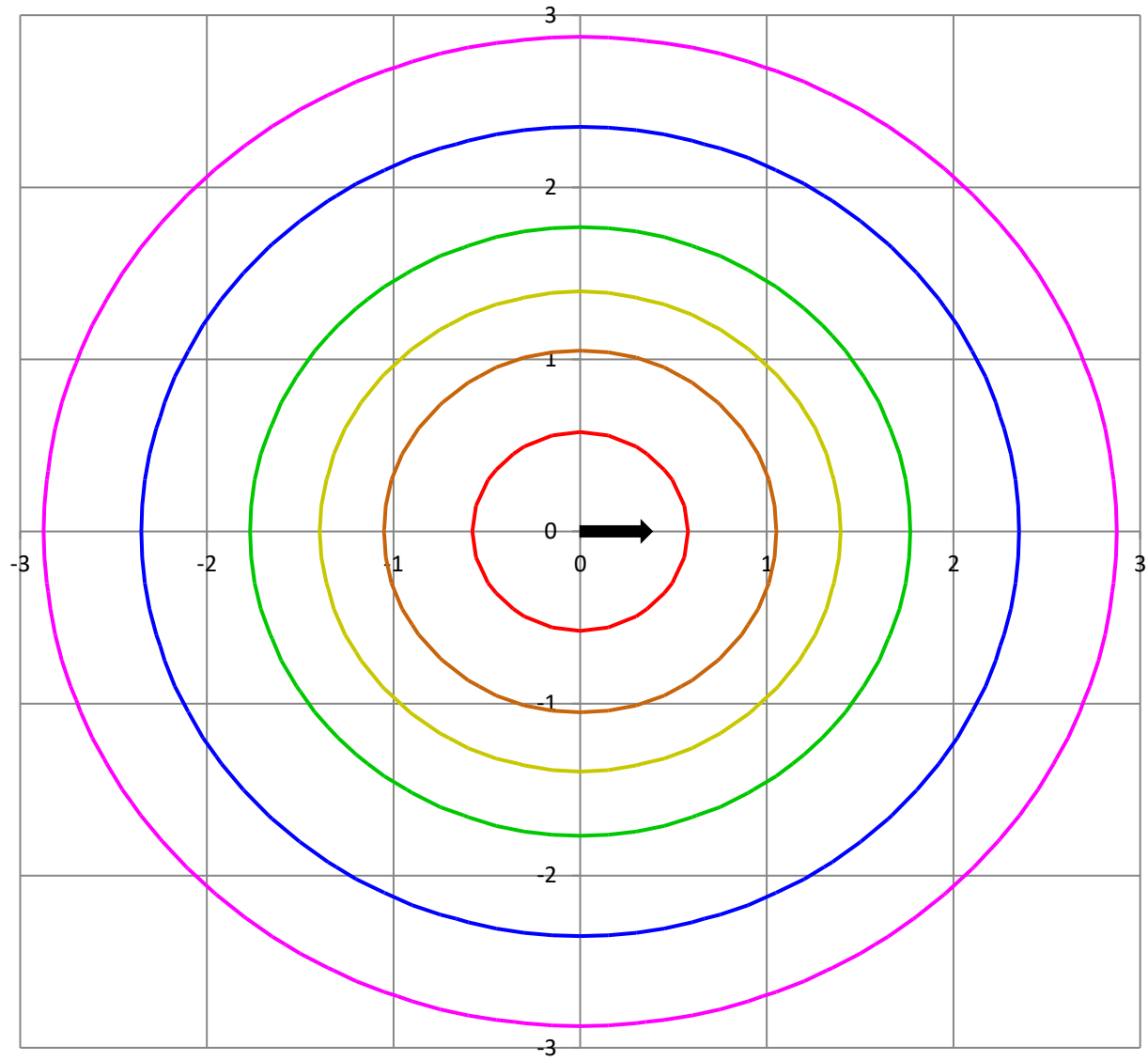
Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as percent of total lumen output delivered to the task surface **																	
0	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	96
1	106	101	96	91	103	98	93	89	93	89	86	88	85	82	84	81	79	76
2	96	87	79	73	93	85	78	72	80	74	69	76	71	67	72	69	65	63
3	87	76	67	60	84	74	66	59	70	63	58	67	61	56	64	59	55	52
4	79	67	58	51	77	65	57	50	62	55	49	59	53	48	56	51	46	44
5	73	60	50	43	70	58	49	43	55	48	42	53	46	41	51	45	40	38
6	67	53	44	38	65	52	44	37	50	42	37	48	41	36	46	40	35	33
7	62	48	39	33	60	47	39	33	45	38	32	44	37	32	42	36	31	29
8	58	44	35	29	56	43	35	29	41	34	29	40	33	28	38	32	28	26
9	54	40	32	26	52	40	32	26	38	31	26	37	30	25	35	29	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	33	27	23	21

Beam and Field Information	
CIE Type:	Direct
Center Beam Intensity:	5358 Candela
Central Cone Intensity:	5358 Candela
Beam Flux:	13247.0 Lumens
Beam Angle (0-180):	120.3 Degrees
Beam Angle (90-270):	120.3 Degrees
Field Angle (0-180):	184.8 Degrees
Field Angle (90-270):	184.8 Degrees

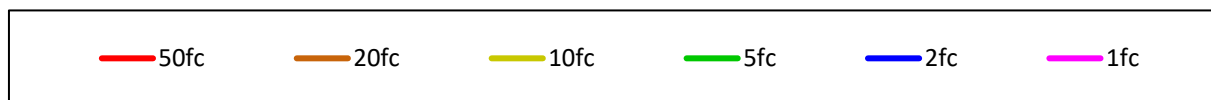
Cone of Light Tabulation			
Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		335	5.45
6.00		149	8.17
8.00		83.7	10.9
10.0		53.6	13.6
12.0		37.2	16.3
14.0		27.3	19.1
16.0		20.9	21.8

# ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height







# ANSI/IES TM-30-18 Color Rendition Report

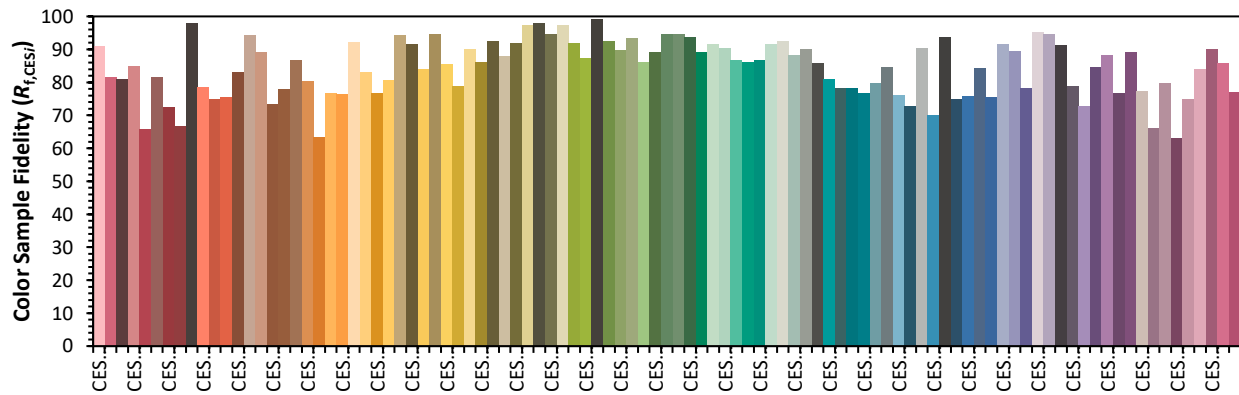
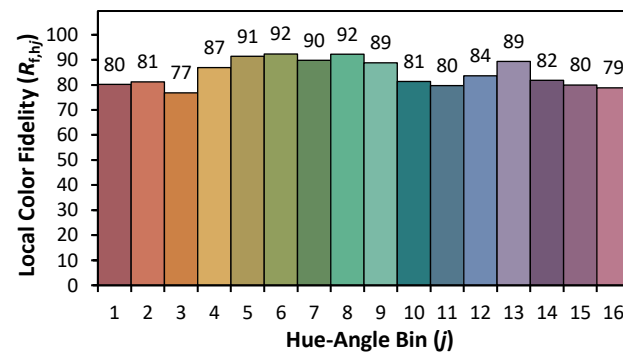
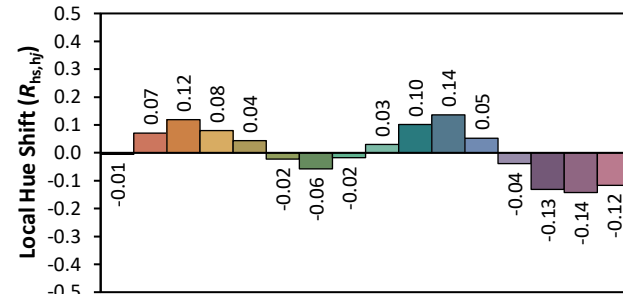
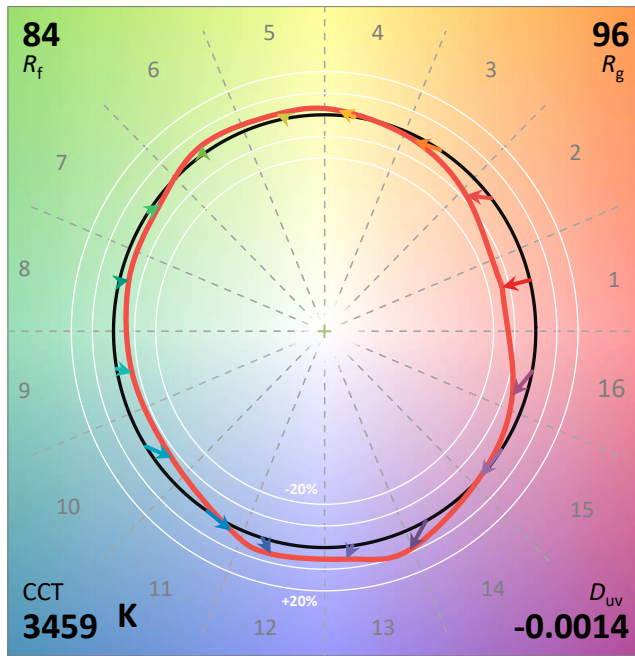
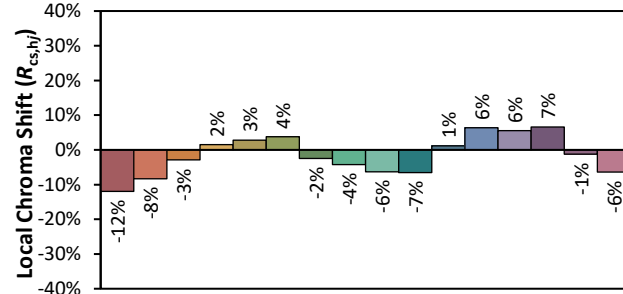
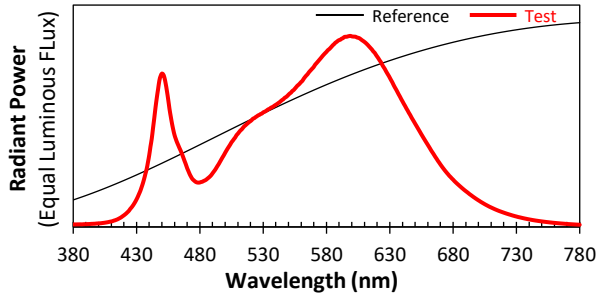
Date: 2023-03-03

Manufacturer:

SPECTRUM LIGHTING INC

Model:

G2208LED240L35KDS10X/TJL/GW



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

x 0.4059

y 0.3878

u' 0.2373

v' 0.5101

CIE 13.3-1995  
(CRI)

R<sub>a</sub> 83

R<sub>g</sub> 8

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