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## Photometric Test Report

Relevant Standards  
IES LM-79-2008  
ANSI C82.77-2002

**Prepared For**  
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**Catalog Number**  
**SP20-11-10D-830-03**  
Order Number  
11178139  
Test Number  
1217977

Test Date

2016-03-02 - 2016-03-03

Prepared By

A handwritten signature in black ink, appearing to be 'Austin Duff'.

Austin Duff, Technician

Approved By

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Eric Gaudreau, Senior Engineering Associate

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  $4\pi$  geometry method.  
Absorption correction was employed for Sphere measurement



**Luminaire Description:** Gray aluminum housing/heatsink with specular reflector and patterned prismatic lens  
**Lamp:** One (1) 10.8 watt E26 Par 20 flood LED lamp  
**Mounting:** VBU

**Luminaire**



**Luminaire Characteristics**  
Luminous Diameter: 2.50 in.

**Summary of Results**

**Integrating Sphere**

Luminous Flux: 699 Lumens  
Efficacy: 67.6 lm/w  
CCT: 2979 K  
CRI (Ra): 84.6

**Distribution**

Total Luminaire Output: 681.0 Lumens  
Luminaire Efficacy: 65.7 lm/w  
Maximum Candela: 11701 Candela

**Electrical Data at 120 VAC**

Test Temperature: 24.5 °C  
Voltage: 120.1 VAC  
Current: 0.09240 A  
Power: 10.35 W  
Power Factor: 0.933  
Frequency: 60 Hz  
Current THD: 38.0 %



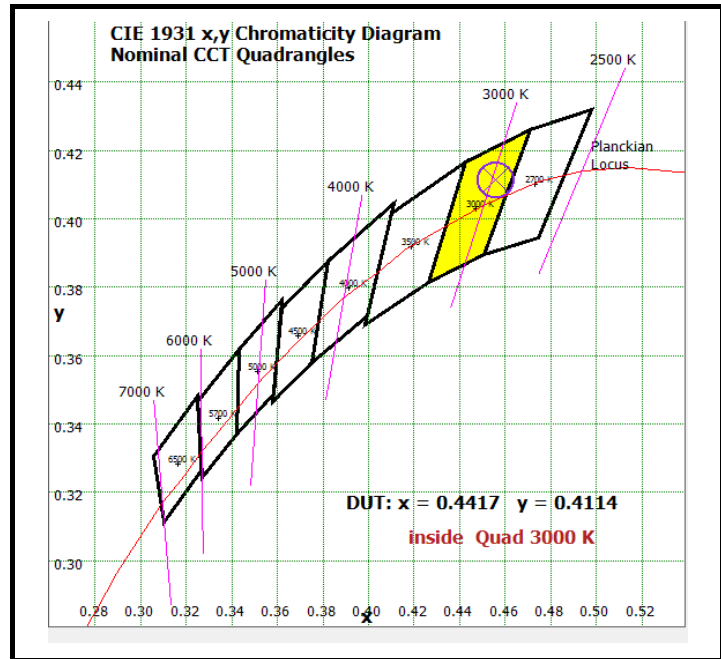
## Color Quality - Integrating Sphere

### Integrating Sphere Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.5 °C	120.1 VAC	0.09240 A	10.35 W	0.933	60 Hz	38.0 %

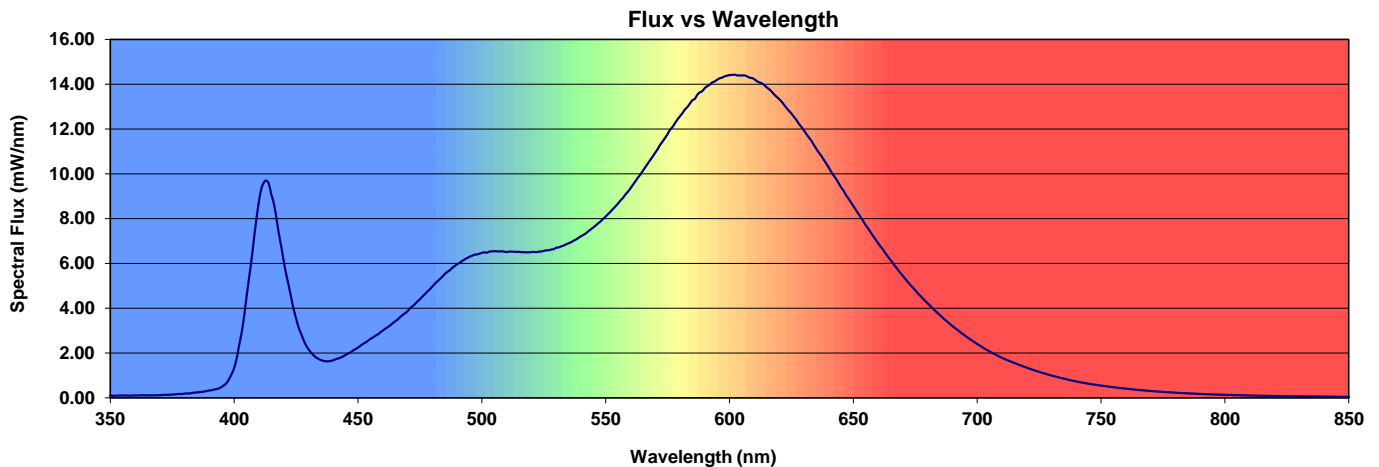
### Summary of Results

<b>Total Output:</b>	699 Lumens
<b>Efficacy:</b>	67.6 lm/w
<b>CCT:</b>	2979 K
<b>CRI (Ra):</b>	84.6
<b>CRI (R9):</b>	10.4
Chromaticity (x):	0.4417
Chromaticity (y):	0.4114
Chromaticity (u):	0.2505
Chromaticity (v):	0.3500
Chromaticity (u'):	0.2505
Chromaticity (v'):	0.5249
Duv:	0.0021



### Color Rendering Index Detail

Ra (CRI)	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84.6	83.4	95.1	90.0	83.3	86.1	97.9	81.9	59.1	10.4	91.5	83.9	91.1	86.3	94.4





## Distribution - Goniophotometer

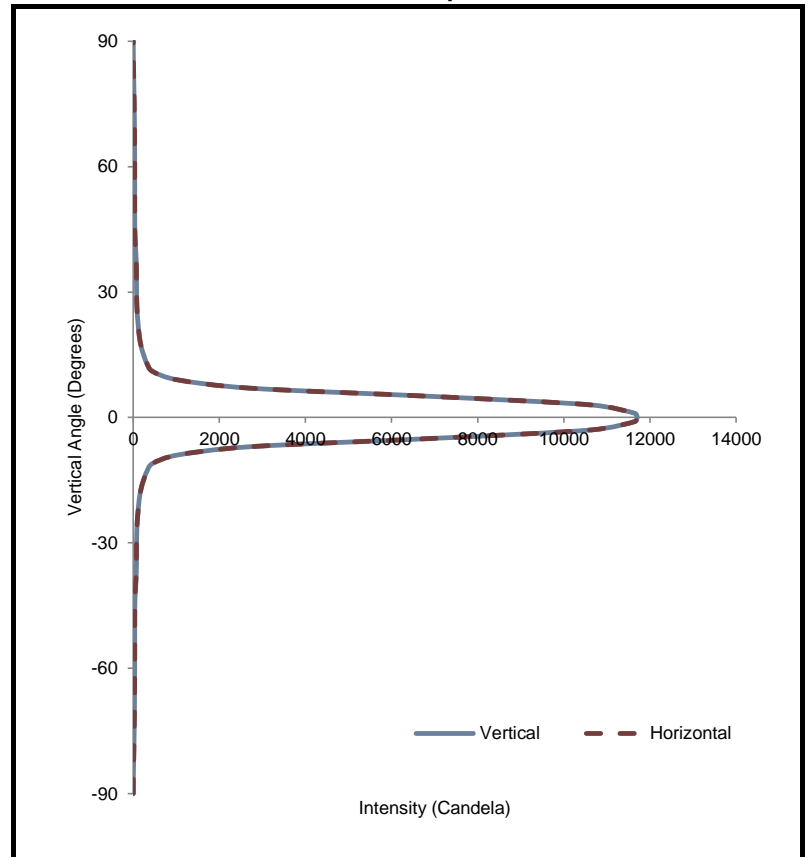
### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.5 °C	120.0 VAC	0.09200 A	10.36 W	0.936	60 Hz	36.2 %

### Summary of Results

**Total Lumen Output:** 681 Lumens  
**Luminaire Efficacy:** 65.7 Lumens/Watt  
IESNA Type: 1 H X 1 V  
**Maximum Candela:** 11701.4 Candela  
**Max CP Horiz Angle:** 0 H  
**Max CP Vert Angle:** 0 V  
**Field Angle :** 17.7 H X 17.7 V  
**Field Lumens:** 388.4 Lumens  
  
**Beam Angle :** 11.1 H X 11.1 V  
**Beam Lumens:** 264.7 Lumens  
  
**Spill Light Lumens:** 292.6 Lumens

### Maximum Candlepower Plot





**Candela Tabulation**

Lateral Angle (Degrees)

	0	1	3	5	7	9	11	13	15	17	19.5
85.0	4	4	4	4	4	4	4	4	4	4	4
75.0	22	22	22	22	22	22	22	21	21	21	21
65.0	31	31	31	31	31	31	31	31	31	31	31
55.0	34	34	34	34	34	34	34	34	34	34	34
47.5	30	30	30	30	30	30	30	30	30	30	30
42.5	43	43	43	42	41	39	38	35	34	32	31
37.5	70	70	69	68	68	66	63	60	56	52	47
33.0	73	73	73	73	73	75	74	75	73	72	68
29.0	77	77	77	77	77	78	77	76	72	73	74
25.5	89	89	89	87	84	82	80	77	77	78	76
22.5	112	111	110	107	103	99	94	88	83	79	77
19.5	140	140	138	132	127	120	113	105	97	89	80
17.0	183	183	179	171	158	144	132	121	111	101	89
15.0	240	236	230	217	198	176	155	138	123	111	97
13.0	314	307	297	277	248	218	188	158	138	121	105
11.0	451	418	400	351	308	263	224	188	155	132	113
9.0	1024	782	709	511	400	326	263	218	176	144	120
7.0	2717	2658	2199	1187	640	400	308	248	198	158	127
5.0	7001	6645	5347	2661	1187	511	351	277	217	171	132
3.0	10624	10331	8486	5347	2199	709	400	297	230	179	138
1.0	11550	11646	10331	6645	2658	782	418	307	236	183	140
0.0	11701	11550	10624	7001	2717	1024	451	314	240	183	140
-1.0	11550	11646	10331	6645	2658	782	418	307	236	183	140
-3.0	10624	10331	8486	5347	2199	709	400	297	230	179	138
-5.0	7001	6645	5347	2661	1187	511	351	277	217	171	132
-7.0	2717	2658	2199	1187	640	400	308	248	198	158	127
-9.0	1024	782	709	511	400	326	263	218	176	144	120
-11.0	451	418	400	351	308	263	224	188	155	132	113
-13.0	314	307	297	277	248	218	188	158	138	121	105
-15.0	240	236	230	217	198	176	155	138	123	111	97
-17.0	183	183	179	171	158	144	132	121	111	101	89
-19.5	140	140	138	132	127	120	113	105	97	89	80
-22.5	112	111	110	107	103	99	94	88	83	79	77
-25.5	89	89	89	87	84	82	80	77	77	78	76
-29.0	77	77	77	77	77	78	77	76	72	73	74
-33.0	73	73	73	73	73	75	74	75	73	72	68
-37.5	70	70	69	68	68	66	63	60	56	52	47
-42.5	43	43	43	42	41	39	38	35	34	32	31
-47.5	30	30	30	30	30	30	30	30	30	30	30
-55.0	34	34	34	34	34	34	34	34	34	34	34
-65.0	31	31	31	31	31	31	31	31	31	31	31
-75.0	22	22	22	22	22	22	22	21	21	21	21
-85.0	4	4	4	4	4	4	4	4	4	4	4

Vertical Angle (Degrees)



**Candela Tabulation**

Lateral Angle (Degrees)

	22.5	25.5	29	33	37.5	42.5	47.5	55	65	75	85
85.0	4	4	3	3	3	3	3	2	2	1	1
75.0	20	20	19	18	17	16	14	12	9	3	1
65.0	30	30	29	29	28	26	24	21	15	9	2
55.0	33	33	33	32	32	31	30	27	21	12	2
47.5	30	32	33	34	33	32	32	30	24	14	3
42.5	30	30	30	31	34	34	32	31	26	16	3
37.5	42	34	31	30	30	34	33	32	28	17	3
33.0	61	51	42	32	30	31	34	32	29	18	3
29.0	74	68	55	42	31	30	33	33	29	19	3
25.5	73	75	68	51	34	30	32	33	30	20	4
22.5	76	73	74	61	42	30	30	33	30	20	4
19.5	77	76	74	68	47	31	30	34	31	21	4
17.0	79	78	73	72	52	32	30	34	31	21	4
15.0	83	77	72	73	56	34	30	34	31	21	4
13.0	88	77	76	75	60	35	30	34	31	21	4
11.0	94	80	77	74	63	38	30	34	31	22	4
9.0	99	82	78	75	66	39	30	34	31	22	4
7.0	103	84	77	73	68	41	30	34	31	22	4
5.0	107	87	77	73	68	42	30	34	31	22	4
3.0	110	89	77	73	69	43	30	34	31	22	4
1.0	111	89	77	73	70	43	30	34	31	22	4
0.0	112	89	77	73	70	43	30	34	31	22	4
-1.0	111	89	77	73	70	43	30	34	31	22	4
-3.0	110	89	77	73	69	43	30	34	31	22	4
-5.0	107	87	77	73	68	42	30	34	31	22	4
-7.0	103	84	77	73	68	41	30	34	31	22	4
-9.0	99	82	78	75	66	39	30	34	31	22	4
-11.0	94	80	77	74	63	38	30	34	31	22	4
-13.0	88	77	76	75	60	35	30	34	31	21	4
-15.0	83	77	72	73	56	34	30	34	31	21	4
-17.0	79	78	73	72	52	32	30	34	31	21	4
-19.5	77	76	74	68	47	31	30	34	31	21	4
-22.5	76	73	74	61	42	30	30	33	30	20	4
-25.5	73	75	68	51	34	30	32	33	30	20	4
-29.0	74	68	55	42	31	30	33	33	29	19	3
-33.0	61	51	42	32	30	31	34	32	29	18	3
-37.5	42	34	31	30	30	34	33	32	28	17	3
-42.5	30	30	30	31	34	34	32	31	26	16	3
-47.5	30	32	33	34	33	32	32	30	24	14	3
-55.0	33	33	33	32	32	31	30	27	21	12	2
-65.0	30	30	29	29	28	26	24	21	15	9	2
-75.0	20	20	19	18	17	16	14	12	9	3	1
-85.0	4	4	3	3	3	3	3	2	2	1	1

Vertical Angle (Degrees)



### Isocandela Diagram (Percent of Maximum Intensity)

