

High Efficiency LED Flat Panels - 1' x 4', 2' x 2' and 2' x 4'

SPEC SHEET



A Contemporary Solution with Edge-to-Edge, Evenly Diffused, Glare-Free Light

Available in 3500K (neutral white), 4000K (cool white) and 5000K (daylight) correlated color temperatures, our High Efficiency LED Flat Panels cast the right light in any commercial setting. Designed for drop-in ceilings, pendant mount or surface mount installations, the slim profile fixtures are available in 1' x 4', 2' x 2' or 2' x 4' sizes and can save up to 50% of energy usage compared to traditional fluorescent fixtures. Standard 0-10V dimming capability allows greater energy-savings and optional emergency backup available for 90 minutes of uninterrupted service during a power loss.

FEATURES

- Edge lit design with superior light uniformity and color consistency
- Standard 0-10 V dimming*
- White frame, fits standard T-bar drop ceilings
- Mitsubishi PMMA light guide eliminates premature yellowing
- IC rated for direct contact with insulation
- Damp location rated
- Includes 2 power quick connects

APPLICATIONS

- Ideal for use in schools, commercial office building, and hospitals
- Surface mount with optional frame kits

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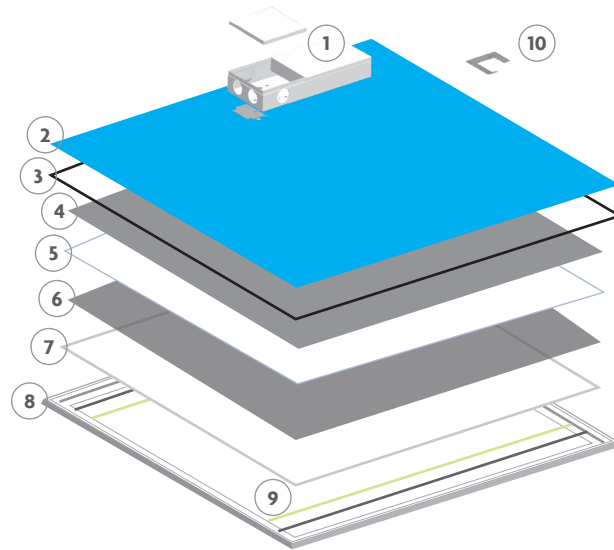
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GENERAL SPECIFICATIONS

Universal Input Voltage: 120-277VAC +/-10%, 60Hz
Power Factor: >0.95, THD <15%
Average Rated Life: 50,000 (L70)
Dimming: 100% to 10%
Color: Temperature CCT uniformity SDCM <4
CRI: >80
Ambient operating temp: -10°F to 110°F

PANEL CONSTRUCTION

1. LED Driver
2. Steel backing cover
3. Gasket
4. EVA foam
5. Reflective film 0.3mm
6. PMMA light guide 3mm Mitsubishi
7. Diffuser 1.2mm
8. Steel frame
9. LED/PCB 190Lm/watt chip
10. Safety clips (x4)



SPECIFICATIONS / ORDER INFO

Catalog Number	Product Code	UPC Code	Color Temp	Amperage		Watts	Lumens	Fluorescent Equiv.	Case Qty	DLC ID
				120V	277V					
F-L14/30/835/D/HE2	74232	751338019621	3500K	0.45	0.20	30	3,750	2xFO32	4	PLA983QR5JW6
F-L14/30/840/D/HE2	74233	751338019638	4000K	0.45	0.20	30	3,750	2xFO32	4	PLVLPFT512A5
F-L14/30/850/D/HE2	74234	751338019645	5000K	0.45	0.20	30	3,750	2xFO32	4	PLYVVC8LPNYP
F-L22/30/835/D/HE2	74236	751338019652	3500K	0.27	0.12	30	3,750	2xFO32	4	PLEFMWX5S60P
F-L22/30/840/D/HE2	74237	751338019669	4000K	0.27	0.12	30	3,750	2xFO32	4	PLP2810ZPFLK
F-L22/30/850/D/HE2	74238	751338019676	5000K	0.27	0.12	30	3,750	2xFO32	4	PLJVJ2NF6HFH
F-L22/40/835/D/HE2	74239	751338019799	3500K	0.36	0.16	40	5,000	3xFO32	4	PLZECWTKTN2W
F-L22/40/840/D/HE2	74240	751338019805	4000K	0.36	0.16	40	5,000	3xFO32	4	PLTOKLKPBBAF
F-L22/40/850/D/HE2	74241	751338019812	5000K	0.36	0.16	40	5,000	3xFO32	4	PLSSIG4G6EJE
F-L24/40/835/D/HE2	74243	751338019683	3500K	0.36	0.16	40	5,000	3xFO32	2	PLVJIBUGYRYV
F-L24/40/840/D/HE2	74244	751338019690	4000K	0.36	0.16	40	5,000	3xFO32	2	PLOP4ZIH6O3F
F-L24/40/850/D/HE2	74245	751338019713	5000K	0.36	0.16	40	5,000	3xFO32	2	PL0CMSQJH2LY
F-L24/50/835/D/HE2	74246	751338019836	3500K	0.45	0.20	50	6,250	4xFO32	2	PL91Q78UMQ45
F-L24/50/840/D/HE2	74247	751338019843	4000K	0.45	0.20	50	6,250	4xFO32	2	PLN21QXWERT
F-L24/50/850/D/HE2	74248	751338019850	5000K	0.45	0.20	50	6,250	4xFO32	2	PL0D7QX068OB

OPTIONAL ITEMS

Item #	Order Code	UPC Code
Frames		
F-L1X4-FRAME	78628	751338000735
F-L2X2-FRAME	78630	751338000568
F-L2X4-FRAME	78631	751338000575
Pendant Mount Cable		
F-LED-2X2 CABLE SET	72714	For use with 2x2, Case Qty: 50
F-LED-2X4 CABLE SET	72716	For use with 1x4 and 2x4, Case Qty: 50
Emergency LED Driver		
BEL5/120-277V-92	70585	751338020177



NOMENCLATURE

Example: **F-L14/30/835/D/HE2**
F=Fixture / **L14**=LED 1' X 4' PANEL / **835**=3500K / **D**=Dimmable / **HE2**=2nd Gen High Efficiency

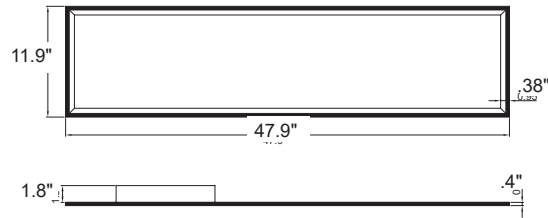
*Dimming with standard 0-10V dimmer, such as Leviton IP710, DS710 or Lutron DVSTV. Specifications are subject to change without prior notice.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Fixture may not be compatible with all dimmers.

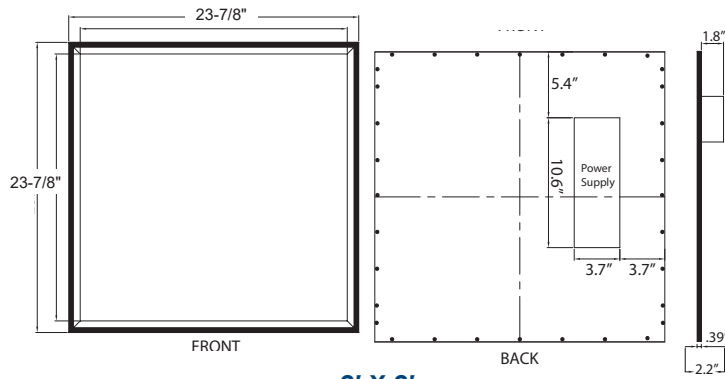
High Efficiency LED Flat Panels - 1' x 4', 2' x 2' and 2' x 4'

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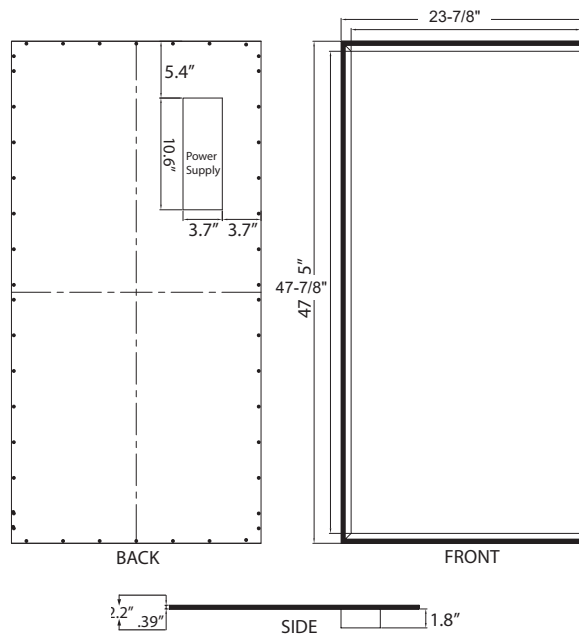
MEASUREMENTS



1' X 4'



2' X 2'

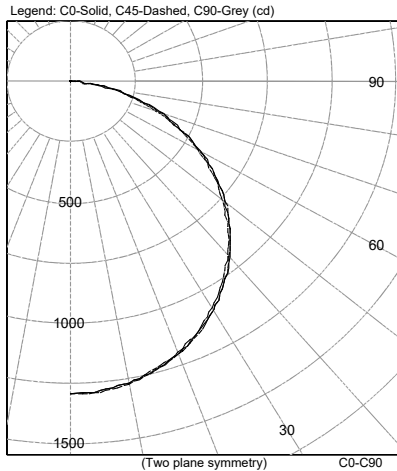


2' X 4'

High Efficiency LED Flat Panels - 1' x 4', 2' x 2' and 2' x 4'

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1' X 4' 30W FLAT PANEL



AVERAGE LUMINANCE (cd / m ²)			
Gamma	C0	C45	C90
45.0	4251	4245	4180
55.0	4086	4090	4014
65.0	3836	3802	3730
75.0	3389	3296	3220
85.0	2662	2516	2363

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1295	1295	1295	1295	1295	
5.0	1285	1292	1291	1290	1284	122
10.0	1267	1273	1273	1271	1265	
15.0	1237	1245	1243	1241	1236	350
20.0	1200	1205	1202	1200	1194	
25.0	1149	1155	1152	1150	1142	530
30.0	1090	1095	1091	1088	1081	
35.0	1022	1026	1022	1017	1010	638
40.0	946	948	944	939	934	
45.0	862	863	861	853	847	662
50.0	770	772	771	761	757	
55.0	672	675	672	663	660	598
60.0	571	574	569	560	558	
65.0	465	467	461	453	452	455
70.0	357	358	351	345	345	
75.0	251	250	245	240	239	260
80.0	153	151	147	143	141	
85.0	67	65	63	60	59	72
90.0	0	0	0	1	1	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1003	N / A	27.2
0-40	1641	N / A	44.5
0-60	2901	N / A	78.7
0-90	3687	N / A	100.0
40-90	2046	N / A	55.5
60-90	786	N / A	21.3
90-180	0	N / A	0.0
0-180	3687	N / A	100.0

Total Light Output = 3,687 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.2

Coefficients Of Utilization - Zonal Cavity Method																		
Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	39	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

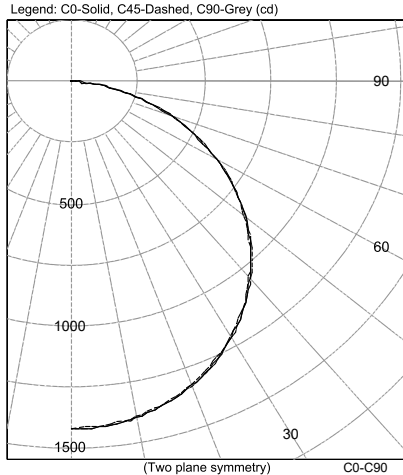
For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	36.0	7.51	7.46
8.0	20.2	10.01	9.94
10.0	12.9	12.52	12.43
12.0	9.0	15.02	14.91
14.0	6.6	17.53	17.40
16.0	5.1	20.03	19.88

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2' X 2' 30W FLAT PANEL



AVERAGE LUMINANCE (cd / m ²)			
Gamma	C0	C45	C90
45.0	4531	4511	4549
55.0	4354	4348	4374
65.0	4051	4058	4078
75.0	3489	3531	3565
85.0	2507	2662	2746

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1421	1421	1421	1421	1421	
5.0	1417	1415	1413	1415	1417	134
10.0	1399	1396	1394	1396	1398	
15.0	1367	1365	1363	1365	1368	385
20.0	1325	1322	1320	1322	1326	
25.0	1271	1268	1266	1268	1273	585
30.0	1206	1203	1201	1204	1209	
35.0	1132	1128	1127	1130	1135	707
40.0	1048	1044	1043	1046	1051	
45.0	955	952	951	954	959	735
50.0	854	852	851	854	857	
55.0	745	744	743	746	748	665
60.0	630	630	630	632	633	
65.0	510	511	511	513	514	506
70.0	388	389	391	393	393	
75.0	269	271	272	275	275	289
80.0	159	161	163	165	166	
85.0	65	67	69	71	71	79
90.0	0	0	1	1	1	

ZONAL FLUX AND PERCENTAGES			
Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1104	N/A	27.0
0-40	1811	N/A	44.3
0-60	3211	N/A	78.6
0-90	4085	N/A	100.0
40-90	2274	N/A	55.7
60-90	874	N/A	21.4
90-180	0	N/A	0.0
0-180	4085	N/A	100.0

Total Light Output = 4,085 lm

Spacing Criterion: 0-180 1.3
 Spacing Criterion: 90-270 1.3

Coefficients Of Utilization - Zonal Cavity Method																		
Effective Floor Cavity Reflectance 0.20																		
RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

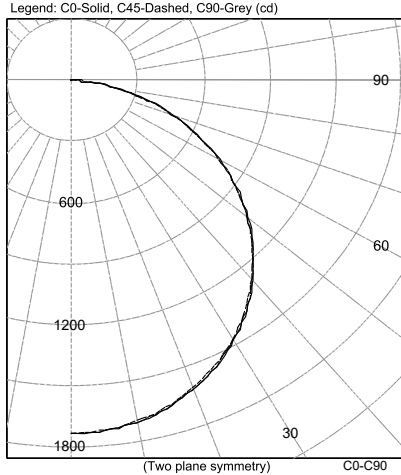
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Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	39.5	7.57	7.58
8.0	22.2	10.09	10.11
10.0	14.2	12.61	12.64
12.0	9.9	15.14	15.16
14.0	7.3	17.66	17.69
16.0	5.6	20.18	20.22

High Efficiency LED Flat Panels - 1' x 4', 2' x 2' and 2' x 4'

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2' X 2' 40W FLAT PANEL



AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	5543	5497	5523
55.0	5336	5300	5307
65.0	4989	4956	4942
75.0	4391	4333	4271
85.0	3367	3283	3122

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1734	1734	1734	1734	1734	164
5.0	1729	1726	1723	1726	1728	
10.0	1706	1703	1700	1703	1705	
15.0	1669	1665	1662	1664	1667	
20.0	1618	1613	1609	1612	1615	
25.0	1552	1547	1543	1545	1549	713
30.0	1474	1468	1464	1466	1470	
35.0	1383	1377	1373	1375	1380	861
40.0	1281	1275	1271	1272	1277	
45.0	1169	1163	1159	1160	1164	896
50.0	1045	1041	1037	1038	1040	
55.0	912	910	906	906	907	811
60.0	773	772	768	767	768	
65.0	629	627	624	623	623	618
70.0	482	481	478	475	475	
75.0	339	338	334	331	330	354
80.0	205	204	201	197	195	
85.0	87	87	85	82	81	97
90.0	1	1	1	1	1	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1347	N / A	27.0
0-40	2208	N / A	44.3
0-60	3915	N / A	78.5
0-90	4984	N / A	100.0
40-90	2777	N / A	55.7
60-90	1069	N / A	21.5
90-180	0	N / A	0.0
0-180	4984	N / A	100.0

Total Light Output = 4,984 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.3

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	96	106	102	98	94	97	94	91	93	91	88	90	88	86	83
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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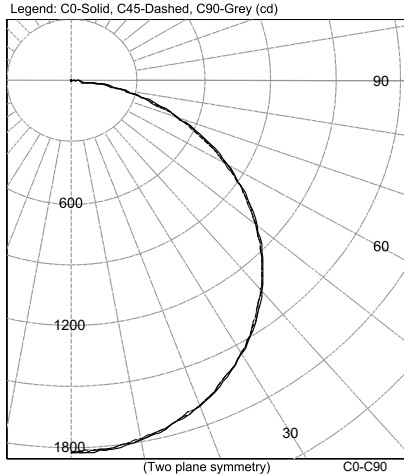
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	48.2	7.58	7.56
8.0	27.1	10.10	10.08
10.0	17.3	12.63	12.60
12.0	12.0	15.16	15.12
14.0	8.8	17.68	17.65
16.0	6.8	20.21	20.17

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2' X 4' 40W FLAT PANEL



AVERAGE LUMINANCE (cd / m ²)			
Gamma	C0	C45	C90
45.0	2750	2732	2726
55.0	2655	2635	2617
65.0	2500	2467	2435
75.0	2201	2156	2112
85.0	1742	1670	1587

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)	
	C0	C22.5	C45	C67.5	C90		
0.0	1820	1820	1820	1820	1820	172	
5.0	1816	1813	1812	1810	1810		
10.0	1792	1789	1788	1785	1786		
15.0	1753	1750	1748	1745	1746		493
20.0	1698	1695	1693	1689	1691		
25.0	1630	1626	1623	1619	1622	748	
30.0	1548	1544	1541	1536	1539		
35.0	1454	1449	1445	1441	1443	904	
40.0	1346	1342	1337	1333	1336		
45.0	1228	1224	1219	1216	1217	941	
50.0	1099	1096	1091	1088	1087		
55.0	961	958	954	951	947	853	
60.0	817	814	809	805	801		
65.0	667	663	658	652	649	650	
70.0	512	508	503	498	495		
75.0	360	357	352	347	345	373	
80.0	219	217	212	208	206		
85.0	96	95	92	89	87	105	
90.0	1	2	3	4	4		

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1414	N / A	27.0
0-40	2318	N / A	44.2
0-60	4112	N / A	78.5
0-90	5240	N / A	100.0
40-90	2922	N / A	55.8
60-90	1128	N / A	21.5
90-180	0	N / A	0.0
0-180	5240	N / A	100.0

Total Light Output = 5,240 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.3

 Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	99	96	106	101	98	94	97	94	91	93	91	88	90	88	86	83	83	83	83
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69	69	69	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58	58	58	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	53	62	56	52	50	50	50	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43	43	43	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37	37	37	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33	33	33	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	32	42	36	31	29	29	29	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	50.6	7.58	7.54
8.0	28.4	10.11	10.06
10.0	18.2	12.64	12.57
12.0	12.6	15.16	15.08
14.0	9.3	17.69	17.60
16.0	7.1	20.22	20.11



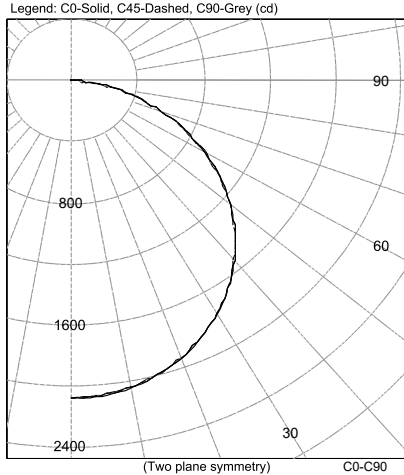
Job Name/Title: _____ Catalog Number _____

Contractor: _____ Notes: _____

High Efficiency LED Flat Panels - 1' x 4', 2' x 2' and 2' x 4'

SPEC SHEET

2' X 4' 50W FLAT PANEL



Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	2078	2078	2078	2078	2078	
5.0	2073	2070	2068	2066	2066	197
10.0	2045	2042	2041	2038	2038	
15.0	2000	1997	1995	1993	1994	563
20.0	1937	1934	1933	1930	1932	
25.0	1858	1855	1854	1851	1854	855
30.0	1764	1761	1760	1757	1760	
35.0	1656	1653	1651	1649	1652	1033
40.0	1534	1531	1529	1527	1530	
45.0	1398	1396	1394	1393	1395	1076
50.0	1251	1250	1248	1248	1247	
55.0	1095	1093	1092	1091	1089	976
60.0	930	929	927	925	923	
65.0	757	755	754	752	751	745
70.0	578	577	577	576	576	
75.0	401	401	403	405	406	428
80.0	238	240	243	246	247	
85.0	100	101	104	106	107	119
90.0	1	2	3	3	3	

Gamma	C0	C45	C90
45.0	3133	3123	3125
55.0	3024	3017	3007
65.0	2838	2827	2814
75.0	2454	2469	2485
85.0	1810	1895	1954

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	1614	N / A	26.9
0-40	2647	N / A	44.2
0-60	4699	N / A	78.4
0-90	5990	N / A	100.0
40-90	3343	N / A	55.8
60-90	1291	N / A	21.6
90-180	0	N / A	0.0
0-180	5990	N / A	100.0

Total Light Output = 5,990 lm

Spacing Criterion: 0-180 1.3
Spacing Criterion: 90-270 1.3

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	96	106	101	98	94	97	94	91	93	91	88	90	88	86	83
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	57.7	7.57	7.56
8.0	32.5	10.10	10.08
10.0	20.8	12.62	12.59
12.0	14.4	15.15	15.11
14.0	10.6	17.67	17.63
16.0	8.1	20.19	20.15