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Indoor Distribution Test Report

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

Prepared For
B-K Lighting Inc

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Madera, CA 93636-9515
United States

Catalog Number
CFM-LED-L12

Order Number

11609588

Test Number

11609588.06

Revised:

2017-06-05

Test Date

2017-04-27

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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Luminaire Description: Decorative white metal housing with reflector and diffuse lens.
Lamp: White LED array
Mounting: Pendant

Luminaire



Luminaire Characteristics

Luminous Diameter: 10.00 in.
Luminous Height: 4.25 in.

Summary of Results

Total Luminaire Output:	449.7 Lumens
Luminaire Efficacy:	45.3 lm/w
Maximum Candela:	53 Candela

Test Conditions

Test Temperature:	24.6 °C
Voltage:	120.1 VAC
Current:	0.08446 A
Power:	9.923 W
Power Factor:	0.978
Frequency:	60 Hz
Current THD:	19.2 %

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



Distribution - Goniophotometer

Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
24.6 °C	120.1 VAC	0.08446 A	9.923 W	0.978	60 Hz	19.2 %

Summary of Results

Spacing Criteria

0-180: 5.49

90-270: 5.62

Total Lumen Output:

449.7 Lumens

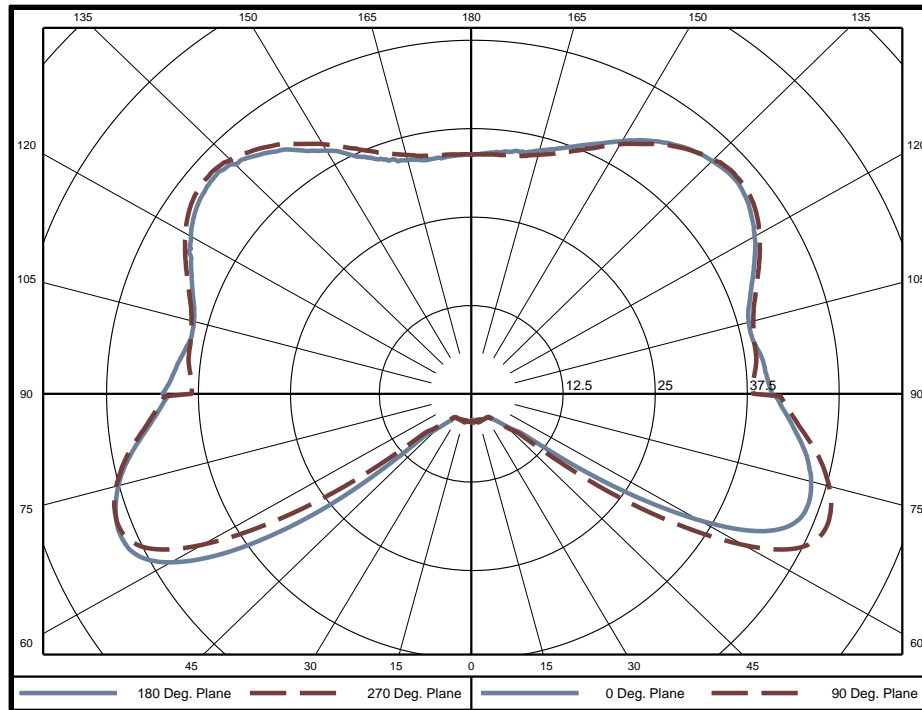
Luminaire Efficacy:

45.3 lm/w

Maximum Candela:

53 Candela

Polar Plot



Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	0.09	0.0%	60-65	22.66	5.0%	120-125	21.17	4.7%
5-10	0.29	0.1%	65-70	25.66	5.7%	125-130	20.42	4.5%
10-15	0.47	0.1%	70-75	26.44	5.9%	130-135	19.00	4.2%
15-20	0.65	0.1%	75-80	26.08	5.8%	135-140	17.01	3.8%
20-25	0.83	0.2%	80-85	24.91	5.5%	140-145	14.74	3.3%
25-30	1.00	0.2%	85-90	23.60	5.2%	145-150	12.32	2.7%
30-35	1.18	0.3%	90-95	21.78	4.8%	150-155	9.98	2.2%
35-40	1.50	0.3%	95-100	21.47	4.8%	155-160	7.80	1.7%
40-45	2.14	0.5%	100-105	21.03	4.7%	160-165	5.86	1.3%
45-50	3.43	0.8%	105-110	20.96	4.7%	165-170	4.10	0.9%
50-55	8.80	2.0%	110-115	21.19	4.7%	170-175	2.44	0.5%
55-60	16.52	3.7%	115-120	21.36	4.7%	175-180	0.81	0.2%

Zone	Lumens	% of Luminaire
0-40	6	1.3%
0-60	37	8.2%
0-90	186	41.4%
90-180	263	58.6%



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	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90	3.90
	5	3.92	3.99	3.96	3.98	3.97	3.95	4.00	3.93	3.94	3.93	4.00	3.95	3.97	3.98	3.96
	10	3.94	4.03	4.02	4.06	3.98	4.01	4.02	4.01	4.01	4.01	4.02	4.01	3.98	4.06	4.02
	15	3.73	3.92	3.88	3.91	3.84	3.94	3.93	3.87	4.00	3.87	3.93	3.94	3.84	3.91	3.88
	20	3.93	4.01	4.00	4.02	3.94	3.95	3.92	3.94	3.96	3.94	3.92	3.95	3.94	4.02	4.00
	25	3.98	4.01	4.01	4.00	3.98	3.96	3.92	3.92	3.89	3.92	3.92	3.96	3.98	4.00	4.01
	30	3.98	4.02	3.98	3.98	3.95	3.95	3.91	3.90	3.89	3.90	3.91	3.95	3.95	3.98	4.02
	35	4.02	4.05	4.04	4.05	4.03	4.05	4.13	4.20	4.28	4.20	4.13	4.05	4.03	4.05	4.04
	40	4.68	4.81	4.88	4.94	4.98	5.02	5.15	5.27	5.48	5.27	5.15	5.02	4.98	4.94	4.88
	45	6.09	6.24	6.40	6.52	6.62	6.72	6.96	7.15	7.43	7.15	6.96	6.72	6.62	6.52	6.40
	50	8.24	8.39	8.48	9.25	11.10	12.68	15.37	18.04	21.18	18.04	15.37	12.68	11.10	9.25	8.48
	55	19.92	21.68	24.64	27.12	28.41	30.24	31.91	34.26	37.22	34.26	31.91	30.24	28.41	27.12	24.64
	60	35.56	36.71	40.08	42.64	42.79	44.10	44.41	45.26	47.69	45.26	44.41	44.10	42.79	42.64	40.08
	65	45.63	46.18	49.53	51.69	50.56	50.26	49.86	50.20	51.85	50.20	49.86	50.26	50.56	51.69	49.53
	70	48.49	48.51	51.71	53.48	51.83	51.09	50.53	50.89	51.88	50.89	50.53	51.09	51.83	53.48	51.71
	75	47.98	48.01	50.85	52.22	50.41	49.59	49.10	49.62	50.18	49.62	49.10	49.59	50.41	52.22	50.85
	80	46.18	46.20	48.66	49.55	47.66	46.86	46.42	47.11	47.27	47.11	46.42	46.86	47.66	49.55	48.66
	85	43.65	43.56	45.74	46.28	44.36	43.68	43.21	44.10	43.98	44.10	43.21	43.68	44.36	46.28	45.74
	90	41.06	40.77	41.27	41.02	38.35	38.77	39.13	39.93	42.40	39.93	39.13	38.77	38.35	41.02	41.27
	95	40.22	40.09	40.81	40.98	38.79	38.67	38.32	38.87	40.71	38.87	38.32	38.67	38.79	40.98	40.81
	100	39.39	39.42	40.46	41.13	39.17	38.78	37.83	38.15	39.56	38.15	37.83	38.78	39.17	41.13	40.46
	105	39.18	39.45	40.71	41.46	39.73	39.12	38.05	38.30	39.39	38.30	38.05	39.12	39.73	41.46	40.71
	110	40.52	40.93	42.09	42.73	41.15	40.36	39.43	39.71	40.66	39.71	39.43	40.36	41.15	42.73	42.09
	115	42.53	43.02	44.13	44.66	43.19	42.21	41.48	41.78	42.44	41.78	41.48	42.21	43.19	44.66	44.13
	120	44.59	45.29	46.30	46.69	45.27	44.08	43.48	43.82	44.43	43.82	43.48	44.08	45.27	46.69	46.30
	125	46.26	46.95	47.90	48.18	46.88	45.62	45.13	45.47	46.00	45.47	45.13	45.62	46.88	48.18	47.90
	130	47.05	47.60	48.45	48.75	47.41	46.47	45.95	46.14	46.72	46.14	45.95	46.47	47.41	48.75	48.45
	135	46.54	46.72	47.41	47.81	46.77	46.15	45.61	45.72	45.89	45.72	45.61	46.15	46.77	47.81	47.41
	140	45.44	45.60	46.12	46.38	45.26	44.68	44.12	44.17	44.37	44.17	44.12	44.68	45.26	46.38	46.12
	145	43.61	43.50	43.98	43.98	43.14	42.55	42.12	42.12	42.09	42.12	42.12	42.55	43.14	43.98	43.98
	150	41.27	41.13	41.44	41.38	40.77	40.28	39.78	39.71	39.70	39.71	39.78	40.28	40.77	41.38	41.44
	155	38.94	38.78	38.85	38.73	38.28	37.78	37.48	37.31	37.02	37.31	37.48	37.78	38.28	38.73	38.85
	160	37.03	36.75	36.79	36.55	36.25	36.06	35.75	35.51	35.24	35.51	35.75	36.06	36.25	36.55	36.79
	165	35.61	35.44	35.29	35.15	34.99	34.80	34.61	34.40	34.19	34.40	34.61	34.80	34.99	35.15	35.29
	170	34.91	34.59	34.46	34.37	34.20	34.05	33.92	33.80	33.62	33.80	33.92	34.05	34.20	34.37	34.46
	175	34.25	34.12	34.11	34.02	33.98	33.88	33.79	33.72	33.71	33.72	33.79	33.88	33.98	34.02	34.11
	180	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81	33.81

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

Vertical Angle (Degrees)	0	45	90
	0	77	77
	45	166	174
	55	548	678
	65	1309	1421
	75	1477	1566
	85	1483	1554



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	473	473	473	473	431	431	431	431	353	353	353	282	282	282	217	217	217	186
1	404	373	345	320	363	336	312	290	268	250	233	206	192	179	148	138	128	100
2	356	309	270	237	318	277	243	214	218	192	169	164	144	127	113	99	86	61
3	317	262	219	184	283	234	196	166	183	154	129	135	113	94	91	75	61	39
4	286	226	181	148	255	202	163	132	157	126	102	115	92	73	76	59	45	25
5	260	197	153	121	231	176	137	108	137	107	83	100	77	59	66	49	35	17
6	238	174	132	101	211	156	118	90	121	91	69	89	66	48	58	41	28	12
7	219	156	115	86	195	139	103	77	108	80	59	80	57	40	52	36	23	9
8	202	140	101	74	180	125	90	66	98	70	50	72	50	35	48	31	19	7
9	188	127	90	64	167	114	80	57	89	62	44	66	45	30	44	28	16	6
10	175	116	80	56	156	104	72	50	82	56	38	61	40	26	41	25	14	5

Beam and Field Information

CIE Type:	Direct/Indirect
Center Beam Intensity:	3.90 Candela
Central Cone Intensity:	4 Candela
Beam Flux:	449.6 Lumens
Beam Angle (0-180):	N/A Degrees
Beam Angle (90-270):	N/A Degrees
Field Angle (0-180):	N/A Degrees
Field Angle (90-270):	N/A Degrees

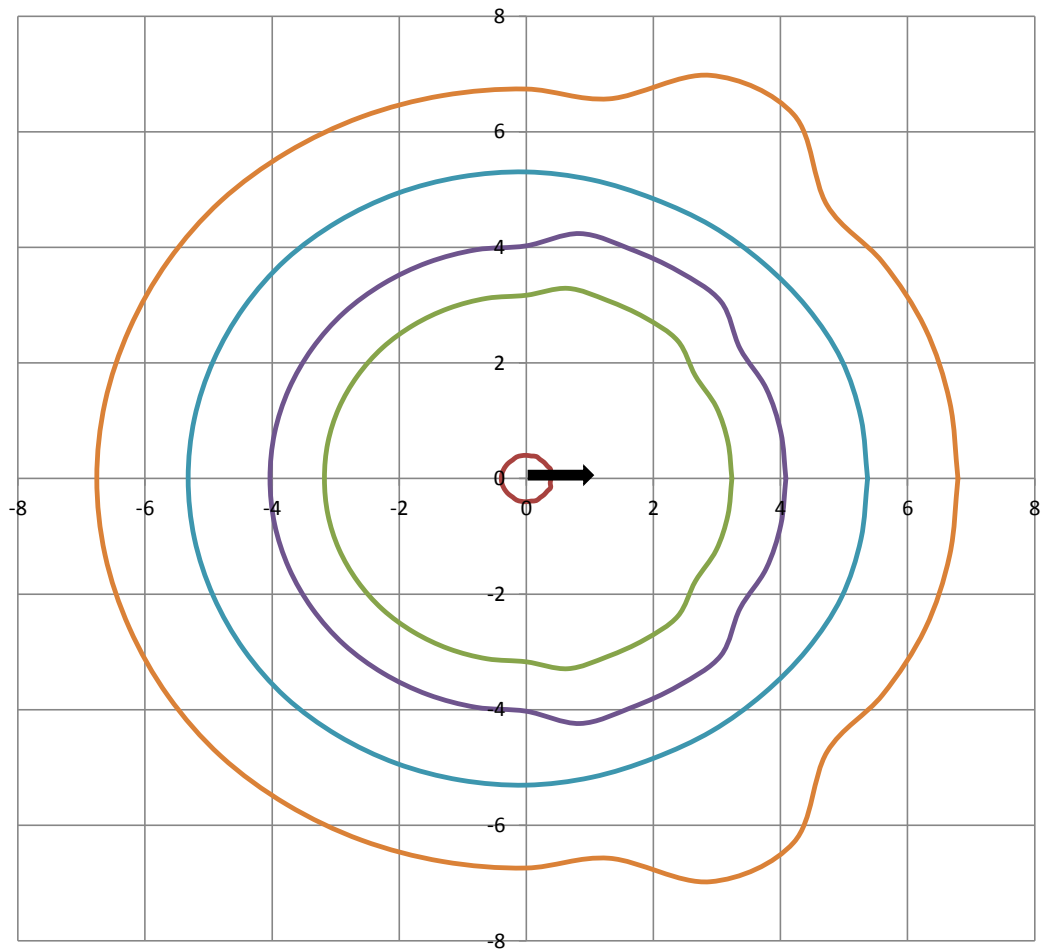
Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		0.244	22.4
6.00		0.108	33.6
8.00		0.0609	44.7
10.0		0.0390	55.9
12.0		0.0271	67.1
14.0		0.0199	78.3
16.0		0.0152	89.5



ISOFootcandle Plot

Mounting Height - 8 Feet



Grid Lines in Units of Mounting Height

0.1 fc 0.05 fc 0.02 fc 0.01 fc 0.005 fc 0.002 fc