



LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING
MEMBER
of the
IESNA

905 Harrison Street · Allentown, PA 18103 · 610-770-1044 · Fax 610-770-8912 · www.LuminaireTesting.com

LTL NUMBER: 18356 DATE: 04-16-2010
 PREPARED FOR: LUMETTA, INC.
 CATALOG NUMBER: FW1500
 LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING/REFLECTOR, TRANSLUCENT
 WHITE PLASTIC DIFFUSER WITH FORMED STEEL FRAME, OPEN TOP AND
 BOTTOM.
 LAMP: ONE VBD 18 WATT TWIN TUBE T5 FLUORESCENT LAMP RATED AT 1250
 LUMENS.
 LAMP CATALOG NUMBER: GE F18BX/SPX30
 BALLAST: ONE B+L TECHNOLOGIES NU6-1128-PSX
 MOUNTING: WALL
 ELECTRICAL VALUES: 120.0VAC, 0.1099A, 11.72W

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
5	23.7	25.4	23.4	19.9	16.4	17.0	19.2	19.4	20.8	19.4	19.2	17.0	16.4	19.9	23.4	25.4	2.8
15	37.4	39.2	42.1	46.8	48.3	58.2	58.9	62.5	67.6	62.5	58.9	58.2	48.3	46.8	42.1	39.2	14.2
25	32.0	33.4	35.6	39.8	43.9	48.5	52.2	61.6	69.1	61.6	52.2	48.5	43.9	39.8	35.6	33.4	21.1
35	38.9	39.8	39.9	38.9	37.6	35.9	36.5	44.3	56.6	44.3	36.5	35.9	37.6	38.9	39.9	39.8	25.3
45	47.5	48.0	46.7	42.6	36.9	31.0	28.2	31.9	47.8	31.9	28.2	31.0	36.9	42.6	46.7	48.0	30.3
55	56.5	56.2	52.6	45.8	36.7	28.6	24.4	24.1	42.7	24.1	24.4	28.6	36.7	45.8	52.6	56.2	35.7
65	64.2	63.6	58.8	49.7	37.8	27.8	22.4	19.7	39.9	19.7	22.4	27.8	37.8	49.7	58.8	63.6	41.1
75	69.1	68.3	62.9	52.6	38.9	28.3	22.2	18.4	39.3	18.4	22.2	28.3	38.9	52.6	62.9	68.3	45.7
85	71.8	70.9	65.0	54.1	39.4	29.2	23.4	20.0	40.3	20.0	23.4	29.2	39.4	54.1	65.0	70.9	48.8
90	72.5	71.3	65.0	53.7	39.1	29.7	24.7	21.9	42.7	21.9	24.7	29.7	39.1	53.7	65.0	71.3	
95	72.4	70.8	64.3	52.8	38.6	30.0	25.8	24.5	46.2	24.5	25.8	30.0	38.6	52.8	64.3	70.8	49.9
105	69.6	67.9	62.0	51.6	39.2	32.3	30.6	30.4	51.7	30.4	30.6	32.3	39.2	51.6	62.0	67.9	49.5
115	64.6	62.8	57.9	49.6	40.1	35.6	37.9	40.2	60.3	40.2	37.9	35.6	40.1	49.6	57.9	62.8	48.0
125	57.0	55.6	52.2	47.3	42.2	41.7	48.5	54.2	71.8	54.2	48.5	41.7	42.2	47.3	52.2	55.6	45.6
135	48.8	48.9	48.8	47.7	48.2	52.6	63.3	71.8	86.2	71.8	63.3	52.6	48.2	47.7	48.8	48.9	43.6
145	47.4	48.5	50.2	53.7	60.6	71.6	84.2	92.7	102.9	92.7	84.2	71.6	60.6	53.7	50.2	48.5	42.0
155	59.2	60.5	63.8	70.1	77.3	92.4	102.7	108.8	112.8	108.8	102.7	92.4	77.3	70.1	63.8	60.5	37.8
165	79.4	79.0	77.7	76.6	73.7	88.5	92.8	93.8	94.3	93.8	92.8	88.5	73.7	76.6	77.7	79.0	23.4
175	54.3	50.7	45.5	39.3	36.5	38.4	39.8	39.9	38.9	39.9	39.8	38.4	36.5	39.3	45.5	50.7	4.9
180	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	

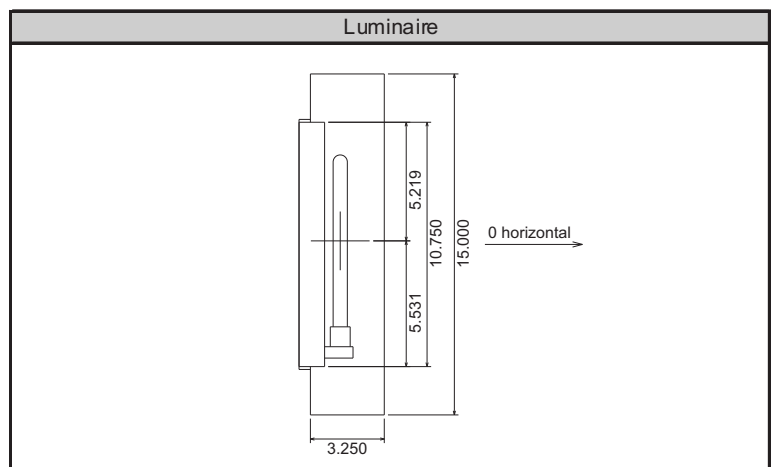
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	38.0	3.0%	6.2%
0-40	63.3	5.1%	10.4%
0-60	129.3	10.3%	21.2%
0-90	265.0	21.2%	43.5%
90-180	344.7	27.6%	56.5%
0-180	609.7	48.8%	100.0%

Total luminaire efficiency: 48.8%

CIE Type: Direct/Indirect
 Spacing Criterion: 0 deg: 6.83 90 deg: 5.52
 180 deg: 5.59 270 deg: 5.52

Total reflectance of paint: 71.0



Approved By: _____

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.



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Candela Tabulation (5 degree Vertical Increments)

	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	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
5	23.7	25.4	23.4	19.9	16.4	17.0	19.2	19.4	20.8	19.4	19.2	17.0	16.4	19.9	23.4	25.4
10	43.6	42.7	43.6	42.6	39.6	42.8	45.5	44.7	47.5	44.7	45.5	42.8	39.6	42.6	43.6	42.7
15	37.4	39.2	42.1	46.8	48.3	58.2	58.9	62.5	67.6	62.5	58.9	58.2	48.3	46.8	42.1	39.2
20	32.0	33.8	37.0	44.0	48.4	56.7	59.5	66.6	71.8	66.6	59.5	56.7	48.4	44.0	37.0	33.8
25	32.0	33.4	35.6	39.8	43.9	48.5	52.2	61.6	69.1	61.6	52.2	48.5	43.9	39.8	35.6	33.4
30	35.0	36.0	36.9	38.6	39.5	40.9	43.5	53.2	63.1	53.2	43.5	40.9	39.5	38.6	36.9	36.0
35	38.9	39.8	39.9	38.9	37.6	35.9	36.5	44.3	56.6	44.3	36.5	35.9	37.6	38.9	39.9	38.9
40	43.1	44.1	43.4	40.6	36.9	32.9	31.5	37.5	51.8	37.5	31.5	32.9	36.9	40.6	43.4	44.1
45	47.5	48.0	46.7	42.6	36.9	31.0	28.2	31.9	47.8	31.9	28.2	31.0	36.9	42.6	46.7	48.0
50	52.4	52.2	49.7	44.2	37.0	29.7	26.2	27.4	44.8	27.4	26.2	29.7	37.0	44.2	49.7	52.2
55	56.5	56.2	52.6	45.8	36.7	28.6	24.4	24.1	42.7	24.1	24.4	28.6	36.7	45.8	52.6	56.2
60	60.5	59.9	55.7	47.6	37.0	27.9	23.1	21.4	41.0	21.4	23.1	27.9	37.0	47.6	55.7	59.9
65	64.2	63.6	58.8	49.7	37.8	27.8	22.4	19.7	39.9	19.7	22.4	27.8	37.8	49.7	58.8	63.6
70	66.8	66.2	61.1	51.3	38.4	27.8	21.9	18.8	39.6	18.8	21.9	27.8	38.4	51.3	61.1	66.2
75	69.1	68.3	62.9	52.6	38.9	28.3	22.2	18.4	39.3	18.4	22.2	28.3	38.9	52.6	62.9	68.3
80	70.8	70.0	64.3	53.5	39.3	28.7	22.4	18.5	39.1	18.5	22.4	28.7	39.3	53.5	64.3	70.0
85	71.8	70.9	65.0	54.1	39.4	29.2	23.4	20.0	40.3	20.0	23.4	29.2	39.4	54.1	65.0	70.9
90	72.5	71.3	65.0	53.7	39.1	29.7	24.7	21.9	42.7	21.9	24.7	29.7	39.1	53.7	65.0	71.3
95	72.4	70.8	64.3	52.8	38.6	30.0	25.8	24.5	46.2	24.5	25.8	30.0	38.6	52.8	64.3	70.8
100	71.2	69.6	63.3	52.2	38.7	31.1	27.6	26.4	48.1	26.4	27.6	31.1	38.7	52.2	63.3	69.6
105	69.6	67.9	62.0	51.6	39.2	32.3	30.6	30.4	51.7	30.4	30.6	32.3	39.2	51.6	62.0	67.9
110	67.4	65.7	60.2	50.8	39.6	33.8	33.8	34.8	55.7	34.8	33.8	33.8	39.6	50.8	60.2	65.7
115	64.6	62.8	57.9	49.6	40.1	35.6	37.9	40.2	60.3	40.2	37.9	35.6	40.1	49.6	57.9	62.8
120	61.1	59.4	55.2	48.3	40.9	38.2	42.7	46.6	65.7	46.6	42.7	38.2	40.9	48.3	55.2	59.4
125	57.0	55.6	52.2	47.3	42.2	41.7	48.5	54.2	71.8	54.2	48.5	41.7	42.2	47.3	52.2	55.6
130	52.6	51.5	50.1	47.1	44.8	46.5	55.4	62.7	78.6	62.7	55.4	46.5	44.8	47.1	50.1	51.5
135	48.8	48.9	48.8	47.7	48.2	52.6	63.3	71.8	86.2	71.8	63.3	52.6	48.2	47.7	48.8	48.9
140	47.1	47.8	48.6	49.7	53.4	60.8	73.1	82.0	94.1	82.0	73.1	60.8	53.4	49.7	48.6	47.8
145	47.4	48.5	50.2	53.7	60.6	71.6	84.2	92.7	102.9	92.7	84.2	71.6	60.6	53.7	50.2	48.5
150	50.9	52.2	54.9	60.9	69.5	82.3	94.8	102.5	109.7	102.5	94.8	82.3	69.5	60.9	54.9	52.2
155	59.2	60.5	63.8	70.1	77.3	92.4	102.7	108.8	112.8	108.8	102.7	92.4	77.3	70.1	63.8	60.5
160	70.0	70.9	72.9	77.5	80.1	96.1	102.8	107.0	109.1	107.0	102.8	96.1	80.1	77.5	72.9	70.9
165	79.4	79.0	77.7	76.6	73.7	88.5	92.8	93.8	94.3	93.8	92.8	88.5	73.7	76.6	77.7	79.0
170	79.1	75.3	70.1	62.7	57.2	66.9	69.7	68.6	67.4	68.6	69.7	66.9	57.2	62.7	70.1	75.3
175	54.3	50.7	45.5	39.3	36.5	38.4	39.8	39.9	38.9	39.9	39.8	38.4	36.5	39.3	45.5	50.7
180	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	0.3	45-50	15.8	90-95	25.0	135-140	21.6
5-10	2.5	50-55	17.2	95-100	24.9	140-145	21.3
10-15	5.8	55-60	18.5	100-105	24.8	145-150	20.8
15-20	8.4	60-65	19.9	105-110	24.6	150-155	19.9
20-25	10.0	65-70	21.2	110-115	24.2	155-160	17.9
25-30	11.1	70-75	22.4	115-120	23.7	160-165	14.2
30-35	12.1	75-80	23.3	120-125	23.1	165-170	9.2
35-40	13.2	80-85	24.1	125-130	22.5	170-175	4.1
40-45	14.5	85-90	24.7	130-135	22.0	175-180	0.8



Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.561	0.561	0.561	0.561	0.515	0.515	0.515	0.515	0.471	0.471	0.471	0.471
1	0.495	0.462	0.432	0.406	0.451	0.422	0.396	0.373	0.409	0.384	0.361	0.341
2	0.445	0.394	0.351	0.316	0.404	0.359	0.322	0.291	0.365	0.326	0.294	0.266
3	0.403	0.34	0.293	0.255	0.365	0.31	0.269	0.235	0.329	0.282	0.245	0.215
4	0.366	0.297	0.248	0.211	0.331	0.272	0.228	0.194	0.299	0.247	0.208	0.178
5	0.334	0.262	0.213	0.177	0.303	0.24	0.196	0.163	0.273	0.218	0.179	0.15
6	0.307	0.233	0.185	0.151	0.278	0.214	0.17	0.139	0.25	0.194	0.156	0.128
7	0.283	0.209	0.163	0.13	0.256	0.192	0.15	0.121	0.231	0.175	0.137	0.111
8	0.261	0.189	0.144	0.114	0.237	0.173	0.133	0.105	0.214	0.158	0.122	0.097
9	0.242	0.171	0.128	0.1	0.22	0.157	0.119	0.093	0.199	0.144	0.109	0.085
10	0.226	0.156	0.115	0.088	0.205	0.144	0.107	0.082	0.186	0.131	0.098	0.076

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.389	0.389	0.389	0.389	0.314	0.314	0.314	0.244	0.244	0.244	0.212
1	0.331	0.313	0.296	0.28	0.247	0.234	0.223	0.186	0.177	0.169	0.14
2	0.293	0.264	0.24	0.219	0.207	0.189	0.173	0.154	0.141	0.13	0.104
3	0.263	0.228	0.2	0.177	0.178	0.157	0.14	0.132	0.117	0.104	0.081
4	0.238	0.2	0.17	0.146	0.156	0.134	0.115	0.115	0.099	0.085	0.066
5	0.218	0.177	0.146	0.123	0.138	0.115	0.097	0.102	0.086	0.072	0.054
6	0.2	0.158	0.128	0.106	0.124	0.101	0.083	0.092	0.075	0.062	0.046
7	0.185	0.142	0.113	0.091	0.112	0.089	0.072	0.084	0.067	0.054	0.04
8	0.172	0.129	0.1	0.08	0.102	0.08	0.064	0.076	0.06	0.047	0.035
9	0.16	0.118	0.09	0.071	0.093	0.072	0.056	0.07	0.054	0.042	0.031
10	0.15	0.108	0.081	0.063	0.086	0.065	0.05	0.065	0.049	0.038	0.027

Average Luminance Table (cd/m²)

	0	45	90
0	287	287	287
45	1257	987	1104
55	1374	1010	1017
65	1486	1064	1003
75	1575	1108	1025
85	1662	1153	1061

Note: The zonal cavity calculation technique is accurate when luminaires with symmetric candela distributions are employed and when the luminaires are located symmetrically throughout the room. This unit has special characteristics and therefore these values should be used with caution.

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25 °C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.

