



LUMINAIRE TESTING LABORATORY, INC.

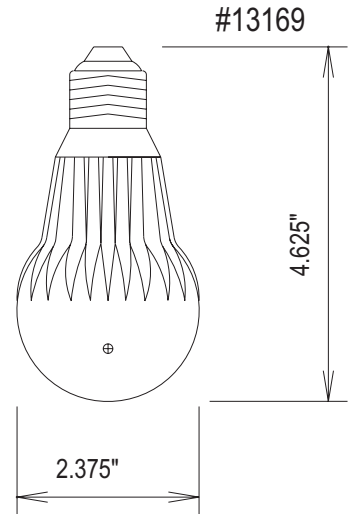
SUSTAINING MEMBER of the IESNA

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

LTL NUMBER: 13169
PREPARED FOR: C. CRANE COMPANY, INC.
CATALOG NUMBER: GEOBULB II COOL WHITE
LUMINAIRE: ONE VBU A19 LED REPLACEMENT LAMP
LAMPS: EIGHT WHITE LEDS
LED POWER SUPPLY: INTEGRAL
ELECTRICAL VALUES: 120.0VAC, 0.0711A, 7.14W
LAMP EFFICACY: 62.7 LUMENS/WATT

DATE: 05-09-2008

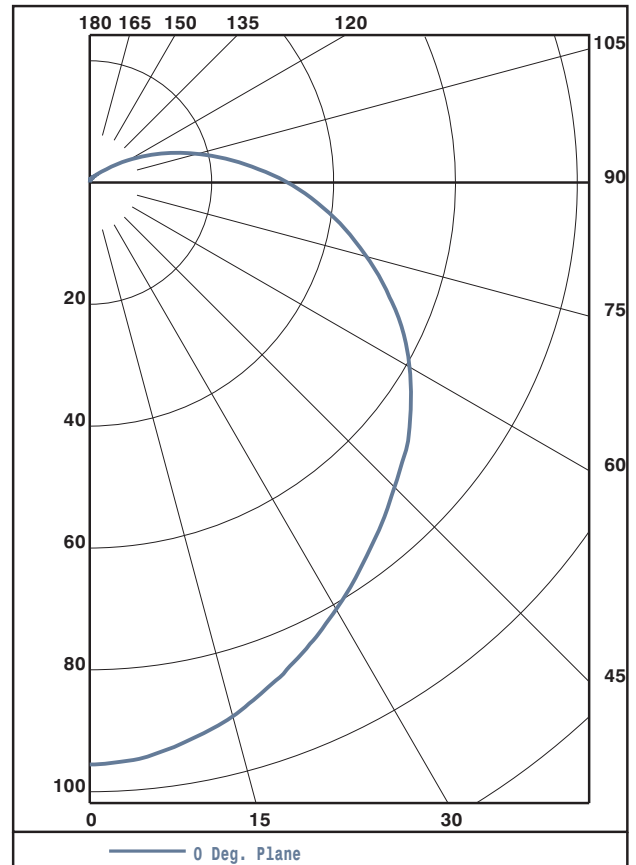
NOTE: THIS TEST WAS PERFORMED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.*
VERTICAL TEST DATA WAS ACQUIRED IN 1/2 DEGREE INCREMENTS.



CANDELA	ZONAL
VER	LUMEN
ANG	SUMS
0	96
5	95
15	91
25	84
35	77
45	71
55	64
65	57
75	47
85	37
90	32
95	27
105	18
115	11
125	5
135	2
145	1
155	1
165	1
175	0
180	0

ZONAL LUMEN	SUMMARY	DATA IN MAJOR ZONES
ZONE	LUMENS	%FIXT
0-30	73	16.39
0-40	122	27.21
0-60	234	52.27
0-90	381	84.92
90-120	60	13.35
90-130	64	14.37
90-150	67	14.94
90-180	68	15.08
0-180	448	100.00

TOTAL LUMEN OUTPUT: 448
CIE CLASSIFICATION TYPE: SEMI-DIRECT
LUMINAIRE SPACING CRITERION: 1.32
LUMINOUS DIAMETER OF LUMINAIRE: 2.375"



Approved By: MG

*DATA WAS ACQUIRED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY. A UDT MODEL #211 PHOTODETECTOR AND UDT MODEL #S370 OPTOMETER COMBINATION WERE USED AS A STANDARD. A SPECTRAL MISMATCH CORRECTION FACTOR WAS EMPLOYED BASED ON THE SPECTRAL RESPONSIVITY OF THE PHOTODETECTOR AND THE SPECTRAL POWER DISTRIBUTION OF THE TEST SUBJECT.

TESTING WAS PERFORMED IN ACCORDANCE WITH IES LM-79-08.

TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IES LM-41-98 AND LM-46-04.



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5 DEG LUMEN ZONE	VALUES LUMENS
0-5	2
5-10	7
10-15	11
15-20	15
20-25	18
25-30	21
30-35	23
35-40	25
40-45	27
45-50	28
50-55	29
55-60	29
60-65	28
65-70	27
70-75	26
75-80	24
80-85	22
85-90	19
90-95	16
95-100	14
100-105	11
105-110	8
110-115	6
115-120	4
120-125	3
125-130	2
130-135	1
135-140	1
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

LUMINAIRE AVERAGE BRIGHTNESS DATA TABLE			
LUMINANCE IN CANDELA PER SQUARE METER			
VER	LATERAL ANGLE		
ANG	0-DEG	45-DEG	90-DEG
0	33433	33433	33433
45	34996	34996	34996
55	29885	29885	29885
65	27214	27214	27214
75	24239	24239	24239
85	21425	21425	21425



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5 DEGREE LUMINAIRE CANDELA DISTRIBUTION

VER LATERAL ANGLE

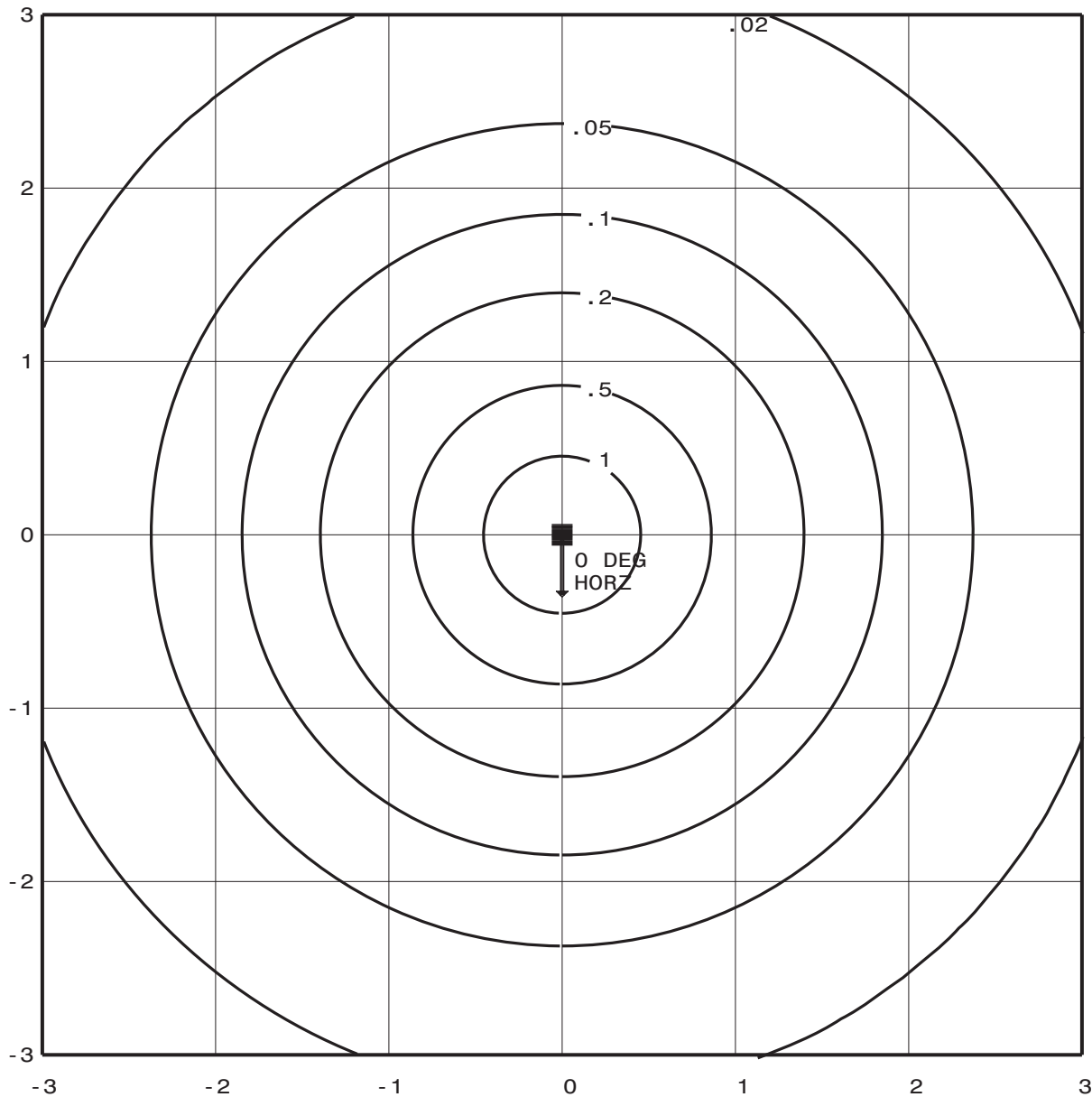
ANG	0.0
0	96
5	95
10	93
15	91
20	88
25	84
30	81
35	77
40	74
45	71
50	68
55	64
60	61
65	57
70	52
75	47
80	42
85	37
90	32
95	27
100	23
105	18
110	14
115	11
120	7
125	5
130	3
135	2
140	2
145	1
150	1
155	1
160	1
165	1
170	1
175	0
180	0

THIS TEST WAS CONDUCTED USING PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IES 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) 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.



ISOFOOTCANDLE CONVERSION FACTORS FOR SELECTED MOUNTING HEIGHTS

MOUNTING HEIGHT	6'	7'	8'	9'	10'
MULTIPLIER	1.78	1.31	1.00	0.79	0.64



LTL REPORT NUMBER 13169-ISOFOOTCANDLE VALUES ARE BASED ON A MOUNTING HEIGHT OF 8', WITH THE LUMINAIRE LOCATED AT 0,0. ISOFOOTCANDLE VALUES ARE CALCULATED FROM THE DIRECT CONTRIBUTION FROM THE LUMINAIRE ONLY. WALL, CEILING, AND FLOOR CONTRIBUTION IS NOT INCLUDED.



LTL TEST #13169

CIRCLE-OF-LIGHT

Ft below	FC nadir	Dia @ 50%
6.0	2.6	7.6
8.0	1.5	10.2
10.0	0.9	12.7
12.0	0.7	15.3
14.0	0.5	17.8
16.0	0.4	20.3

NOTE: 'Dia' spans the edge-points that are half of nadir FC



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INITIAL ILLUMINATION OF 50 FOOTCANDLES USING LTL TEST NUMBER 13169
LUMINAIRE SUSPENSION LENGTH = 1.5
WORKING PLANE HEIGHT = 2.50
FLOOR REFLECTANCE = 20

ROOM HT	CEIL RF	8				9				10				12			
		80	70	80	70	80	70	80	70	80	70	80	70	80	70		
WALL RF		70	50	50	30	70	50	50	30	70	50	50	30	70	50	50	30
WIDTH	LENGTH																
10.	10.	15	18	19	22	17	21	22	26	18	23	24	30	21	29	30	38
10.	15.	21	25	26	30	23	28	29	34	25	31	32	39	28	37	39	48
15.	20.	38	43	45	50	40	47	48	55	42	50	52	60	47	58	61	72
15.	30.	55	61	64	70	58	66	68	76	61	70	73	83	67	80	83	98
20.	20.	49	55	57	63	51	58	61	68	54	63	65	74	59	71	74	87
20.	30.	70	77	80	87	74	83	86	95	77	87	91	102	83	98	102	117
20.	40.	92	100	104	112	96	106	111	121	100	112	117	130	107	125	130	148
20.	60.	135	146	152	162	140	154	160	174	146	163	170	187	155	178	186	209
30.	30.	102	110	114	122	105	116	120	130	109	122	127	140	117	134	139	157
30.	40.	133	142	148	157	137	149	155	167	142	156	163	177	150	170	177	197
30.	50.	164	175	182	193	169	182	190	203	174	190	198	214	184	207	216	238
30.	60.	196	208	216	229	201	216	225	240	206	225	234	252	218	244	254	280
60.	60.	375	389	405	419	383	402	418	437	391	415	432	457	405	437	455	486
60.	80.	494	511	532	547	503	525	547	567	513	540	562	589	530	568	591	628
60.	100.	614	633	659	676	624	649	675	698	635	665	693	722	656	699	728	770
100.	100.	1007	1029	1071	1091	1019	1048	1091	1117	1032	1067	1111	1144	1058	1109	1154	1203

QUANTITY OF LUMINAIRES