



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 155-232MV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 16075
 [TESTLAB] LUMINAIRE TESTING LABORATORY, INC.
 [ISSUE DATE] 07-21-2009
 [MANUFAC] MOBERN LIGHTING COMPANY
 [LUMCAT] 155-232MV
 [LUMINAIRE] WHITE ENAMEL STEEL HOUSING AND REFLECTOR
 [MORE] CLEAR PRISMATIC LENS
 [LAMP] TWO 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS
 [LAMP CAT] PHILIPS F32T8/TL841/ALTO
 [BALLAST] ONE ULT B232IUNVHP-B
 [OTHER] ELECTRICAL VALUES: 120.0VAC, 0.4455A, 53.42W
 [OTHER] MOUNTING: SURFACE

CHARACTERISTICS

Lumens Per Lamp	2850 (2 lamps)
Total Lamp Lumens	5700
Luminaire Lumens	4779
Total Luminaire Efficiency	84 %
Luminaire Efficacy Rating (LER)	90
Total Luminaire Watts	53.4
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.38
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.35 ft
Luminous Height	0.25 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6031	4808	4558
55	4027	3499	4167
65	2502	3361	4437
75	1984	4062	5333
85	1698	5100	6032

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0.0	998	998	998	998	998
0.5	997	996	1002	997	999
1.0	997	996	1001	997	999
1.5	997	996	1002	997	999
2.0	997	995	1001	997	998
2.5	996	995	1001	997	998
3.0	996	995	1001	997	998
3.5	995	994	1001	997	998
4.0	995	994	1001	997	998
4.5	994	993	1000	996	998
5.0	993	993	1000	996	999
5.5	992	992	999	996	998
6.0	991	991	999	996	999
6.5	990	990	998	995	998
7.0	989	989	997	995	998
7.5	987	987	996	994	998
8.0	986	987	996	994	998
8.5	984	985	995	994	998
9.0	982	984	994	994	998
9.5	981	983	994	994	998
10.0	979	981	993	993	997
10.5	978	980	992	993	997
11.0	976	978	991	993	997
11.5	973	977	990	993	997
12.0	971	975	989	993	997
12.5	969	973	988	992	997
13.0	967	971	987	992	997
13.5	964	969	986	992	997
14.0	962	967	985	991	997
14.5	959	965	984	991	997
15.0	956	963	983	991	997
15.5	953	961	981	990	997
16.0	951	959	980	989	996
16.5	948	956	979	989	996
17.0	944	954	977	988	995
17.5	942	951	976	987	995
18.0	938	948	974	985	994
18.5	935	946	972	984	993
19.0	932	943	971	983	992
19.5	928	941	969	982	991
20.0	924	937	966	981	989
20.5	921	934	964	979	988
21.0	916	931	962	978	986
21.5	913	928	960	976	984
22.0	909	925	958	974	982
22.5	905	922	956	972	979
23.0	901	918	953	969	977
23.5	896	914	950	967	974
24.0	892	911	948	964	972
24.5	888	907	945	962	969
25.0	882	904	942	959	966
25.5	878	899	939	955	963
26.0	873	895	936	952	959
26.5	869	892	933	949	956

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CANDELA TABULATION - (Cont.)

27.0	863	887	929	945	952
27.5	858	883	925	941	948
28.0	853	879	922	938	945
28.5	848	875	918	934	940
29.0	843	870	913	929	936
29.5	837	866	909	925	933
30.0	832	861	904	921	929
30.5	826	856	900	917	926
31.0	820	852	895	913	922
31.5	814	846	890	908	918
32.0	808	841	885	904	915
32.5	802	835	879	899	912
33.0	796	830	874	894	908
33.5	790	824	868	890	904
34.0	783	818	862	885	899
34.5	776	812	856	881	895
35.0	769	806	850	876	890
35.5	762	800	844	871	886
36.0	755	793	837	866	880
36.5	749	786	830	860	873
37.0	741	779	823	854	867
37.5	733	772	816	848	862
38.0	726	765	809	842	854
38.5	717	757	801	834	845
39.0	710	750	794	827	837
39.5	701	742	785	818	828
40.0	692	733	777	809	818
40.5	683	724	769	799	808
41.0	675	716	761	790	798
41.5	665	707	752	779	787
42.0	655	697	741	769	775
42.5	643	687	731	758	764
43.0	633	677	722	746	754
43.5	622	666	712	734	742
44.0	610	655	700	723	730
44.5	599	643	689	711	720
45.0	585	631	677	700	709
45.5	572	619	667	687	699
46.0	559	606	654	675	689
46.5	547	593	641	664	681
47.0	532	579	628	652	672
47.5	518	567	617	642	663
48.0	505	553	604	632	656
48.5	492	539	591	623	650
49.0	477	526	578	613	645
49.5	464	513	567	605	641
50.0	452	501	557	599	638
50.5	440	489	545	592	635
51.0	428	476	534	587	633
51.5	414	463	523	582	631
52.0	401	452	513	578	629
52.5	387	441	502	574	627
53.0	374	429	493	571	625
53.5	363	418	484	568	623
54.0	350	408	476	566	622
54.5	337	397	468	564	620

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CANDELA TABULATION - (Cont.)

55.0	325	387	460	562	619
55.5	314	377	453	560	617
56.0	302	368	448	559	616
56.5	292	358	443	558	615
57.0	281	349	437	557	614
57.5	273	341	433	558	613
58.0	263	331	428	557	612
58.5	253	323	424	557	610
59.0	244	316	421	557	609
59.5	236	308	418	557	607
60.0	227	300	415	556	606
60.5	219	293	412	557	606
61.0	212	286	410	557	606
61.5	204	279	407	558	605
62.0	196	273	405	559	605
62.5	189	266	402	560	604
63.0	182	260	401	561	604
63.5	175	254	400	562	605
64.0	168	249	399	563	607
64.5	162	244	398	564	607
65.0	155	238	397	566	608
65.5	150	234	397	567	608
66.0	144	229	397	568	608
66.5	138	225	397	568	609
67.0	133	221	396	569	609
67.5	128	217	396	569	610
68.0	124	213	397	570	610
68.5	120	210	398	572	611
69.0	116	206	398	572	612
69.5	112	203	399	573	614
70.0	108	200	399	574	616
70.5	105	197	400	576	619
71.0	102	194	400	576	621
71.5	99	191	402	578	624
72.0	96	188	403	579	628
72.5	94	186	405	582	632
73.0	91	183	406	584	635
73.5	89	180	407	585	638
74.0	87	178	408	588	642
74.5	84	175	410	590	644
75.0	82	174	411	591	647
75.5	80	171	413	593	650
76.0	77	169	414	595	651
76.5	75	167	414	596	653
77.0	73	165	415	599	655
77.5	71	163	416	600	656
78.0	68	161	417	601	656
78.5	66	160	418	602	656
79.0	64	158	418	603	656
79.5	62	157	419	604	655
80.0	60	155	419	604	654
80.5	57	154	418	604	652
81.0	55	152	418	603	651
81.5	53	150	418	601	648
82.0	50	149	417	599	645
82.5	48	147	416	597	641

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CANDELA TABULATION - (Cont.)

83.0	45	145	416	594	638
83.5	42	144	416	590	633
84.0	39	143	416	586	628
84.5	36	142	415	581	621
85.0	33	141	414	575	615
85.5	29	140	413	569	608
86.0	25	140	412	563	599
86.5	22	138	409	555	588
87.0	18	137	406	548	578
87.5	15	136	403	538	567
88.0	11	135	400	527	555
88.5	7	134	395	517	543
89.0	4	133	391	506	533
89.5	3	132	386	496	523
90.0	1	134	382	485	512
90.5	1	135	379	475	501
91.0	1	138	375	468	491
91.5	1	139	370	459	484
92.0	1	141	364	449	476
92.5	1	143	359	441	468
93.0	1	144	352	433	460
93.5	1	145	346	426	453
94.0	1	147	339	419	446
94.5	1	148	332	411	439
95.0	1	149	327	403	432
95.5	1	150	321	398	428
96.0	1	150	315	395	425
96.5	1	150	310	392	422
97.0	1	150	307	390	422
97.5	1	149	305	391	422
98.0	1	149	304	392	423
98.5	1	148	303	394	426
99.0	1	147	302	398	431
99.5	1	145	303	402	435
100.0	1	144	305	406	440
100.5	1	143	307	410	445
101.0	1	142	310	416	451
101.5	1	141	312	421	458
102.0	1	141	315	426	463
102.5	2	140	318	434	470
103.0	2	139	320	440	477
103.5	2	139	322	445	485
104.0	2	139	324	450	492
104.5	1	139	326	454	497
105.0	2	139	327	458	501
105.5	2	138	328	461	507
106.0	2	138	328	465	511
106.5	2	137	329	468	514
107.0	2	137	328	468	517
107.5	2	137	329	469	518
108.0	2	136	328	468	520
108.5	2	136	327	468	518
109.0	2	136	327	467	518
109.5	2	135	325	465	517
110.0	2	135	324	463	515
110.5	2	134	322	460	513

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CANDELA TABULATION - (Cont.)

111.0	3	133	321	458	509
111.5	2	132	318	455	506
112.0	3	132	317	452	504
112.5	3	131	315	449	500
113.0	3	130	312	445	496
113.5	3	129	310	441	492
114.0	3	128	308	438	487
114.5	3	127	306	434	482
115.0	3	126	304	431	479
115.5	3	125	302	428	475
116.0	3	124	299	426	471
116.5	3	123	297	422	468
117.0	3	122	294	419	465
117.5	3	120	292	416	461
118.0	3	119	290	413	458
118.5	3	117	287	410	454
119.0	3	116	285	406	450
119.5	3	115	282	403	447
120.0	3	113	279	399	444
120.5	3	112	276	396	440
121.0	3	111	273	393	436
121.5	3	109	270	389	432
122.0	3	108	267	385	428
122.5	3	106	264	381	424
123.0	3	104	260	376	420
123.5	3	103	257	373	415
124.0	3	102	253	369	411
124.5	3	100	250	365	406
125.0	3	98	247	360	400
125.5	3	97	243	356	396
126.0	3	95	240	352	392
126.5	3	94	236	347	388
127.0	4	92	233	343	383
127.5	4	91	229	339	379
128.0	3	89	225	335	373
128.5	3	87	221	330	369
129.0	3	86	217	326	364
129.5	3	84	213	321	360
130.0	3	83	210	317	355
130.5	4	82	206	313	350
131.0	4	81	203	308	345
131.5	4	79	199	303	341
132.0	4	77	196	298	336
132.5	4	76	192	292	330
133.0	4	74	188	287	324
133.5	4	74	185	282	319
134.0	4	72	181	277	314
134.5	4	70	177	271	308
135.0	4	69	175	267	303
135.5	4	68	171	262	297
136.0	4	67	168	257	292
136.5	4	65	165	251	286
137.0	4	64	161	246	280
137.5	4	63	158	242	274
138.0	5	62	156	237	269
138.5	5	60	153	232	264

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CANDELA TABULATION - (Cont.)

139.0	5	59	150	228	258
139.5	4	58	147	222	253
140.0	4	57	144	218	249
140.5	5	56	142	214	244
141.0	5	55	139	209	238
141.5	5	53	136	204	233
142.0	5	52	133	201	228
142.5	5	51	130	196	223
143.0	5	49	127	192	218
143.5	5	48	124	187	213
144.0	5	47	121	183	208
144.5	5	46	118	179	203
145.0	5	45	115	175	198
145.5	5	44	112	170	193
146.0	5	42	109	166	188
146.5	5	41	106	161	183
147.0	5	40	104	157	178
147.5	5	39	101	153	173
148.0	6	38	98	149	168
148.5	5	37	95	144	163
149.0	5	36	92	140	159
149.5	5	35	89	136	154
150.0	6	34	87	133	150
150.5	5	33	84	128	145
151.0	5	32	81	125	141
151.5	5	31	78	121	134
152.0	5	30	76	117	132
152.5	6	30	73	113	128
153.0	6	29	71	110	124
153.5	6	28	68	106	120
154.0	6	27	66	103	115
154.5	5	27	64	100	111
155.0	6	26	62	96	108
155.5	5	25	59	92	105
156.0	6	24	57	90	101
156.5	6	24	55	86	98
157.0	6	23	53	83	94
157.5	6	23	52	80	90
158.0	6	22	50	76	87
158.5	6	21	48	74	83
159.0	6	21	46	71	80
159.5	6	20	44	68	77
160.0	6	20	43	65	74
160.5	6	19	41	62	70
161.0	6	18	39	59	68
161.5	6	18	38	57	65
162.0	6	17	36	54	62
162.5	6	17	35	52	59
163.0	6	16	33	49	57
163.5	6	16	32	47	54
164.0	6	15	31	45	51
164.5	6	15	29	42	49
165.0	6	14	28	40	46
165.5	6	14	27	38	44
166.0	6	13	25	36	42
166.5	6	13	24	34	40

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CANDELA TABULATION - (Cont.)

167.0	6	13	23	32	37
167.5	6	12	22	30	35
168.0	6	12	21	29	33
168.5	6	11	20	27	31
169.0	6	11	19	25	30
169.5	5	11	18	24	28
170.0	6	10	18	23	26
170.5	6	10	17	22	25
171.0	6	9	16	20	23
171.5	6	9	15	19	22
172.0	6	8	14	18	20
172.5	6	8	13	17	19
173.0	6	7	12	16	18
173.5	6	7	12	15	17
174.0	6	7	11	14	16
174.5	6	6	10	13	14
175.0	6	6	10	12	13
175.5	6	6	9	11	12
176.0	6	6	8	10	11
176.5	6	5	7	9	10
177.0	6	5	7	8	8
177.5	6	4	6	7	8
178.0	6	5	5	6	7
178.5	6	5	5	5	6
179.0	6	5	5	5	5
179.5	6	5	5	4	4
180.0	4	4	4	4	4

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	371.36	6.50	7.80
0-30	800.84	14.00	16.80
0-40	1325.14	23.20	27.70
0-60	2260.94	39.70	47.30
0-80	3062.54	53.70	64.10
0-90	3453.12	60.60	72.30
10-90	3358.28	58.90	70.30
20-40	953.78	16.70	20.00
20-50	1463.81	25.70	30.60
40-70	1330.6	23.30	27.80
60-80	801.60	14.10	16.80
70-80	406.80	7.10	8.50
80-90	390.58	6.90	8.20
90-110	612.03	10.70	12.80
90-120	885.69	15.50	18.50
90-130	1089.39	19.10	22.80
90-150	1288.14	22.60	27.00
90-180	1326.24	23.30	27.70
110-180	714.21	12.50	14.90
0-180	4779.36	83.80	100.00

Total Luminaire Efficiency = 83.80%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	94.84
10-20	276.52
20-30	429.48
30-40	524.30
40-50	510.03
50-60	425.77
60-70	394.80
70-80	406.80
80-90	390.58
90-100	306.03
100-110	306.00
110-120	273.67
120-130	203.70
130-140	129.49
140-150	69.26
150-160	28.72
160-170	8.26
170-180	1.12

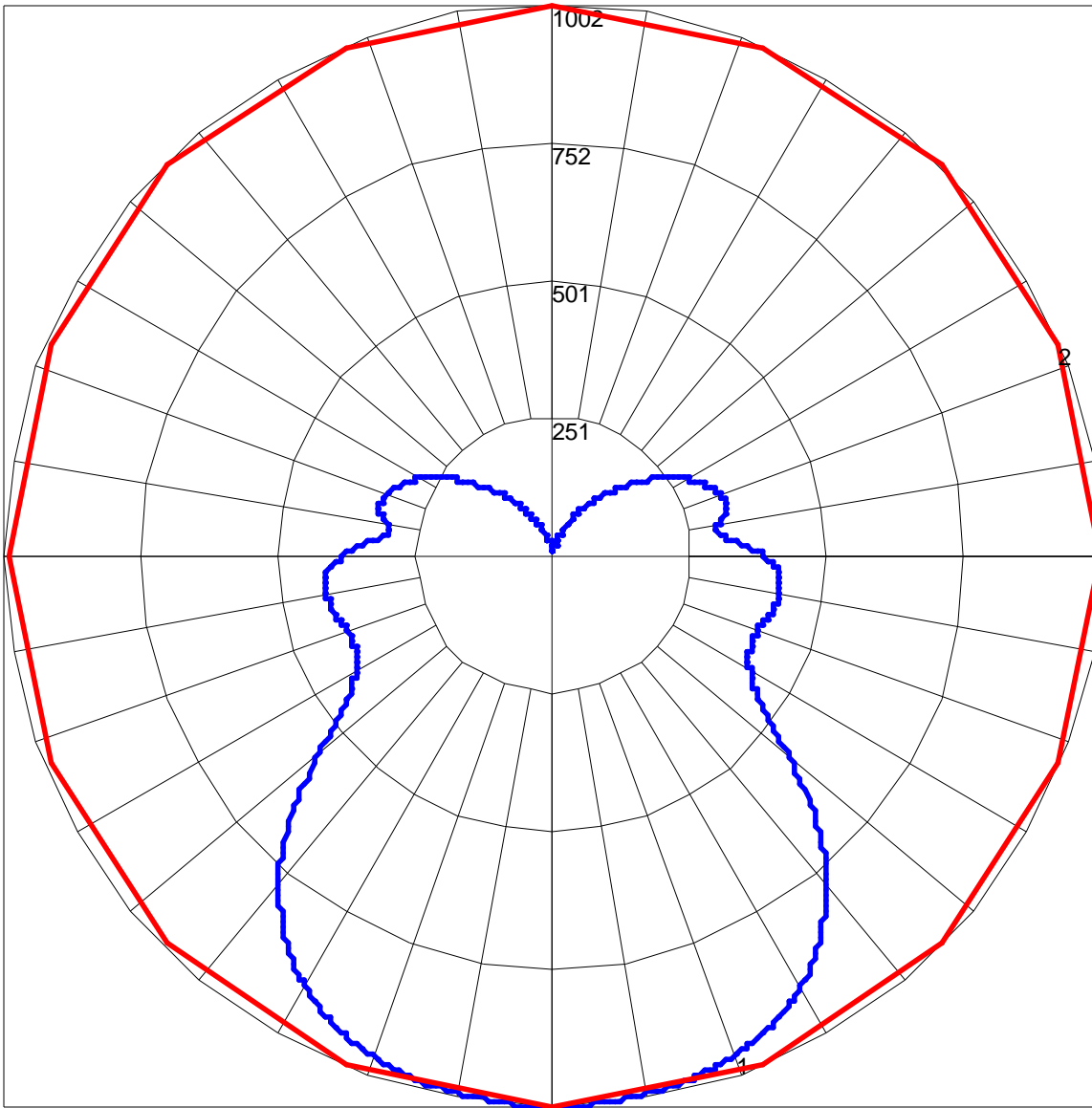
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	94	94	94	94	89	89	89	89	80	80	80	72	72	72	64	64	64	61
1	83	78	74	70	79	74	70	67	66	63	60	59	57	54	52	51	49	45
2	75	67	61	56	71	64	58	53	57	52	48	51	47	44	45	42	40	36
3	68	59	52	46	64	56	49	44	50	45	40	44	40	37	39	36	33	30
4	62	52	44	38	59	49	42	37	44	38	34	40	35	31	35	31	28	26
5	57	46	39	33	54	44	37	32	40	34	29	35	31	27	32	28	24	22
6	53	42	34	29	50	40	33	28	36	30	25	32	27	23	29	25	21	19
7	49	38	30	25	46	36	29	24	32	27	22	29	24	21	26	22	19	17
8	45	34	27	22	43	33	26	22	30	24	20	27	22	19	24	20	17	15
9	42	31	24	20	40	30	24	19	27	22	18	25	20	17	22	18	15	14
10	40	29	22	18	38	28	21	17	25	20	16	23	18	15	21	17	14	12

POLAR GRAPH



Maximum Candela = 1002 Located At Horizontal Angle = 45, Vertical Angle = .5
1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)