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## IES INDOOR REPORT PHOTOMETRIC FILENAME : PNA-7562W.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] LM-79-08  
[TESTLAB] Orb Optronix, Inc.  
[ISSUE DATE] 07-18-2019  
[MANUFAC] Justice Design  
[LUMINAIRE] PNA-7562W  
[ TOTAL LUMINAIRE LUMENS] 288  
[ ABSOLUTE LUMENS] 288.010196618072

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	261
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	20
Total Luminaire Watts	12.96
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.29 ft
Luminous Width (90-270)	0.54 ft
Luminous Height	1.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	964	761	498
55	1017	775	477
65	1038	778	452
75	1056	783	428
85	1079	801	423

**IES INDOOR REPORT**  
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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
<b>0.0</b>	11.695	11.695	11.695	11.695	11.695	11.695	11.695	11.695	11.695	11.695
<b>2.5</b>	12.658	12.585	12.530	12.476	12.040	11.532	11.395	11.568	11.477	11.432
<b>5.0</b>	14.147	13.992	13.747	13.248	12.367	11.695	11.486	11.450	11.404	11.350
<b>7.5</b>	15.935	15.645	15.127	13.611	12.612	11.940	11.495	11.441	11.259	11.259
<b>10.0</b>	17.797	17.515	16.680	14.355	12.894	12.095	11.513	11.241	11.096	11.141
<b>12.5</b>	19.822	19.422	18.169	15.245	13.139	12.258	11.541	11.078	10.969	10.987
<b>15.0</b>	21.765	21.338	19.758	16.190	13.220	12.294	11.468	10.923	10.705	10.778
<b>17.5</b>	23.871	23.417	21.329	17.034	13.502	12.358	11.296	10.569	10.424	10.397
<b>20.0</b>	25.860	25.388	23.045	18.015	13.702	12.394	11.196	10.142	10.024	10.070
<b>22.5</b>	27.885	27.467	24.743	18.941	13.901	12.539	11.041	9.570	9.543	9.543
<b>25.0</b>	29.955	29.492	26.359	19.912	14.029	12.667	10.733	8.962	9.044	9.062
<b>27.5</b>	31.816	31.399	27.939	20.811	14.183	12.685	10.524	8.544	8.644	8.581
<b>30.0</b>	33.641	33.196	29.337	21.592	14.265	12.721	10.179	8.063	8.136	8.245
<b>32.5</b>	35.348	34.940	30.627	22.328	14.265	12.630	9.843	7.427	7.337	7.664
<b>35.0</b>	37.092	36.556	31.962	23.018	14.265	12.503	9.634	6.855	6.628	7.064
<b>37.5</b>	38.908	38.372	33.251	23.626	14.346	12.494	9.316	6.320	6.011	6.592
<b>40.0</b>	40.697	40.188	34.613	24.353	14.392	12.558	9.116	5.947	5.602	6.247
<b>42.5</b>	42.476	41.986	35.993	25.124	14.510	12.494	8.907	5.630	5.194	5.966
<b>45.0</b>	44.174	43.720	37.183	25.896	14.619	12.494	8.799	5.339	4.785	5.702
<b>47.5</b>	45.718	45.173	38.263	26.505	14.573	12.358	8.526	5.058	4.431	5.421
<b>50.0</b>	47.334	46.735	39.298	27.004	14.519	12.340	8.208	4.731	4.022	5.048
<b>52.5</b>	48.869	48.233	40.224	27.367	14.537	12.140	7.999	4.413	3.650	4.731
<b>55.0</b>	50.330	49.740	41.096	27.894	14.510	12.022	7.718	4.168	3.323	4.449
<b>57.5</b>	51.583	51.048	41.968	28.302	14.419	11.895	7.391	3.805	2.969	4.122
<b>60.0</b>	52.610	52.074	42.649	28.557	14.319	11.713	7.073	3.559	2.561	3.877
<b>62.5</b>	53.281	52.664	43.121	28.684	14.083	11.423	6.756	3.351	2.388	3.759
<b>65.0</b>	53.645	53.054	43.284	28.611	13.838	11.032	6.465	3.269	2.225	3.596
<b>67.5</b>	54.298	53.599	43.575	28.566	13.593	10.733	6.211	3.269	1.989	3.514
<b>70.0</b>	54.716	54.017	43.793	28.557	13.429	10.469	6.065	3.269	1.943	3.469
<b>72.5</b>	54.925	54.317	44.011	28.684	13.184	10.224	5.984	3.187	1.780	3.351
<b>75.0</b>	55.206	54.589	44.220	28.647	12.776	10.061	6.102	3.196	1.662	3.278
<b>77.5</b>	55.488	54.825	44.492	28.684	12.585	9.934	6.138	3.151	1.535	3.214
<b>80.0</b>	55.515	54.889	44.655	28.684	12.421	9.879	6.111	2.987	1.298	3.087
<b>82.5</b>	55.470	54.979	44.619	28.647	12.167	9.815	6.011	2.697	0.890	2.915
<b>85.0</b>	55.370	54.780	44.546	28.566	11.904	9.734	5.720	2.542	0.608	2.588
<b>87.5</b>	55.116	54.444	44.383	28.284	11.613	9.570	5.593	2.542	0.608	2.542
<b>90.0</b>	54.807	54.217	44.238	28.075	11.450	9.425	5.611	2.624	0.481	2.551
<b>92.5</b>	54.398	53.844	44.029	28.039	11.604	9.434	5.566	2.588	0.608	2.642
<b>95.0</b>	54.035	53.445	43.829	27.912	11.704	9.480	5.575	2.588	0.726	2.697
<b>97.5</b>	53.427	52.846	43.484	27.758	11.686	9.434	5.684	2.470	0.645	2.624
<b>100.0</b>	52.855	52.283	43.402	27.676	11.686	9.298	5.666	2.588	0.608	2.615
<b>102.5</b>	52.437	52.047	43.330	27.630	11.886	9.262	5.539	2.624	0.726	2.624
<b>105.0</b>	51.983	51.665	43.130	27.594	11.940	9.298	5.266	2.624	0.808	2.624
<b>107.5</b>	51.393	51.093	42.858	27.467	12.076	9.461	5.176	2.461	0.890	2.615
<b>110.0</b>	50.521	50.321	42.267	27.267	12.176	9.652	5.130	2.216	0.881	2.415
<b>112.5</b>	49.613	49.377	41.859	26.940	12.176	9.707	5.139	2.297	0.690	2.252
<b>115.0</b>	48.605	48.342	41.341	26.650	12.240	9.734	5.121	2.261	0.772	2.234
<b>117.5</b>	47.479	47.316	40.724	26.486	12.240	9.725	5.275	2.134	0.726	2.161
<b>120.0</b>	46.553	46.580	40.188	27.394	12.403	9.752	5.557	2.107	0.772	2.143
<b>122.5</b>	45.691	45.745	40.697	28.529	12.975	9.806	6.029	2.234	0.808	2.152
<b>125.0</b>	44.655	44.910	42.404	28.775	13.130	9.734	6.302	2.361	0.935	2.197
<b>127.5</b>	43.611	44.038	46.117	27.694	13.202	9.725	6.374	2.688	1.099	2.397
<b>130.0</b>	42.867	44.710	48.169	26.486	13.003	9.625	6.501	3.114	1.308	2.660
<b>132.5</b>	43.893	46.898	46.444	25.569	12.612	9.525	6.583	3.414	1.643	3.151

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**CANDELA TABULATION - (Cont.)**

<b>135.0</b>	47.361	51.429	43.820	25.188	12.312	9.470	6.665	3.523	2.216	3.596
<b>137.5</b>	51.574	52.464	41.759	24.861	12.231	9.498	6.710	3.705	2.561	3.777
<b>140.0</b>	50.630	49.595	42.031	24.135	12.285	9.534	6.701	3.859	2.760	3.941
<b>142.5</b>	47.025	45.763	42.494	22.891	12.113	9.389	6.746	4.104	3.005	4.013
<b>145.0</b>	43.203	43.348	36.256	21.538	11.822	9.298	6.710	4.286	3.042	4.177
<b>147.5</b>	41.704	43.303	25.106	19.704	11.350	9.125	6.510	4.331	3.296	4.358
<b>150.0</b>	42.222	40.633	21.974	17.488	10.832	8.844	6.429	4.168	3.042	4.059
<b>152.5</b>	35.503	28.057	20.321	15.463	10.206	8.699	6.265	4.476	3.487	4.413
<b>155.0</b>	22.255	21.392	18.659	14.010	9.280	8.399	6.220	4.694	3.650	4.567
<b>157.5</b>	19.268	19.449	16.952	12.939	8.544	8.172	6.065	4.685	3.923	4.640
<b>160.0</b>	17.270	17.452	15.182	11.722	8.245	7.981	5.176	3.777	3.850	4.213
<b>162.5</b>	14.546	14.719	12.921	10.496	7.500	6.855	4.404	2.461	1.689	2.633
<b>165.0</b>	12.349	12.285	11.332	9.307	6.429	6.156	3.668	1.589	0.899	1.498
<b>167.5</b>	11.786	11.940	10.460	8.208	5.521	5.221	2.415	0.763	0.490	0.872
<b>170.0</b>	10.524	9.952	8.453	6.547	4.504	3.777	1.398	0.318	0.245	0.527
<b>172.5</b>	8.735	7.582	5.984	4.685	3.105	2.334	0.436	0.336	0.281	0.381
<b>175.0</b>	6.202	4.867	3.432	2.924	1.916	1.353	0.327	0.381	0.363	0.381
<b>177.5</b>	2.697	0.890	1.235	1.553	0.518	0.372	0.318	0.345	0.363	0.472
<b>180.0</b>	0.390	0.390	0.390	0.390	0.390	0.390	0.390	0.390	0.390	0.390

**Vert. Angles**      **Horizontal Angles**

	<u><b>225.0</b></u>	<u><b>247.5</b></u>	<u><b>270.0</b></u>	<u><b>292.5</b></u>	<u><b>315.0</b></u>	<u><b>337.5</b></u>	<u><b>360.0</b></u>
<b>0.0</b>	11.695	11.695	11.695	11.695	11.695	11.695	11.695
<b>2.5</b>	11.686	11.504	11.986	12.122	13.266	12.703	12.658
<b>5.0</b>	11.813	11.777	12.231	12.785	14.446	14.065	14.147
<b>7.5</b>	11.849	12.049	12.503	13.466	15.899	15.845	15.935
<b>10.0</b>	11.967	12.312	12.821	14.337	17.470	17.661	17.797
<b>12.5</b>	12.004	12.449	13.148	15.263	19.059	19.658	19.822
<b>15.0</b>	11.931	12.576	13.438	16.144	20.566	21.610	21.765
<b>17.5</b>	11.795	12.694	13.684	16.916	22.173	23.690	23.871
<b>20.0</b>	11.568	12.721	13.847	17.770	23.672	25.751	25.860
<b>22.5</b>	11.205	12.812	14.010	18.587	25.215	27.785	27.885
<b>25.0</b>	10.842	12.830	14.138	19.304	26.741	29.891	29.955
<b>27.5</b>	10.388	12.921	14.337	20.067	28.112	31.816	31.816
<b>30.0</b>	9.934	12.894	14.455	20.857	29.456	33.678	33.641
<b>32.5</b>	9.561	12.921	14.664	21.565	30.754	35.421	35.348
<b>35.0</b>	9.216	12.803	14.628	22.273	31.862	36.992	37.092
<b>37.5</b>	8.853	12.766	14.701	22.863	32.861	38.681	38.908
<b>40.0</b>	8.526	12.685	14.746	23.572	33.669	40.397	40.697
<b>42.5</b>	8.254	12.630	14.909	24.262	35.131	42.168	42.476
<b>45.0</b>	7.936	12.594	15.027	25.106	36.511	43.766	44.174
<b>47.5</b>	7.745	12.467	15.064	25.742	37.791	45.073	45.718
<b>50.0</b>	7.409	12.412	15.145	26.323	38.890	46.481	47.334
<b>52.5</b>	7.137	12.222	15.109	26.922	40.034	47.734	48.869
<b>55.0</b>	6.765	12.058	15.155	27.358	41.014	48.996	50.330
<b>57.5</b>	6.456	11.777	15.073	27.857	41.977	50.103	51.583
<b>60.0</b>	6.229	11.631	14.991	28.157	42.767	51.021	52.610
<b>62.5</b>	5.875	11.332	14.864	28.411	43.330	51.475	53.281
<b>65.0</b>	5.584	11.069	14.782	28.420	43.584	51.810	53.645
<b>67.5</b>	5.430	10.651	14.501	28.502	44.047	52.328	54.298
<b>70.0</b>	5.366	10.378	14.256	28.538	44.329	52.700	54.716
<b>72.5</b>	5.348	10.052	14.056	28.493	44.510	52.918	54.925
<b>75.0</b>	5.330	9.915	13.892	28.475	44.583	53.109	55.206
<b>77.5</b>	5.412	9.934	13.729	28.502	44.837	53.436	55.488
<b>80.0</b>	5.439	9.970	13.611	28.629	44.955	53.690	55.515

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**CANDELA TABULATION - (Cont.)**

<b>82.5</b>	5.348	9.979	13.447	28.511	44.955	53.853	55.470
<b>85.0</b>	5.176	9.834	13.284	28.402	44.764	53.781	55.370
<b>87.5</b>	5.076	9.661	13.075	28.212	44.410	53.663	55.116
<b>90.0</b>	5.112	9.579	12.930	27.857	44.092	53.499	54.807
<b>92.5</b>	5.148	9.661	12.930	27.630	43.820	53.291	54.398
<b>95.0</b>	5.230	9.688	13.012	27.440	43.557	53.054	54.035
<b>97.5</b>	5.203	9.625	13.003	27.240	43.048	52.655	53.427
<b>100.0</b>	5.194	9.380	13.039	26.931	42.585	52.246	52.855
<b>102.5</b>	5.094	9.334	12.975	26.650	42.068	51.956	52.437
<b>105.0</b>	4.876	9.216	12.966	26.314	41.641	52.210	51.983
<b>107.5</b>	4.722	9.253	12.966	26.005	41.078	52.083	51.393
<b>110.0</b>	4.622	9.480	12.966	25.633	40.479	51.275	50.521
<b>112.5</b>	4.604	9.697	12.885	25.215	39.852	50.303	49.613
<b>115.0</b>	4.495	9.652	12.839	24.761	39.098	49.205	48.605
<b>117.5</b>	4.640	9.688	12.794	24.253	38.427	47.951	47.479
<b>120.0</b>	4.821	9.734	12.730	24.235	37.927	46.944	46.553
<b>122.5</b>	5.139	9.815	13.175	24.507	38.672	46.008	45.691
<b>125.0</b>	5.630	9.815	13.384	25.015	40.815	44.955	44.655
<b>127.5</b>	5.902	9.779	13.547	24.761	44.083	43.820	43.611
<b>130.0</b>	5.911	9.697	13.529	24.026	44.138	43.729	42.867
<b>132.5</b>	5.975	9.579	13.438	23.090	41.859	45.273	43.893
<b>135.0</b>	6.056	9.416	13.320	22.119	39.898	49.041	47.361
<b>137.5</b>	5.984	9.334	13.102	21.066	38.563	51.211	51.574
<b>140.0</b>	6.084	9.171	12.848	20.049	39.153	48.769	50.630
<b>142.5</b>	6.056	9.007	12.494	19.095	39.825	45.109	47.025
<b>145.0</b>	6.111	8.889	12.222	18.015	31.072	42.113	43.203
<b>147.5</b>	5.947	8.562	11.777	16.871	23.372	42.049	41.704
<b>150.0</b>	5.829	8.526	11.168	15.427	21.356	41.359	42.222
<b>152.5</b>	5.739	8.363	10.905	14.010	19.758	32.080	35.503
<b>155.0</b>	5.820	8.118	10.233	12.785	18.196	21.719	22.255
<b>157.5</b>	5.766	8.018	9.298	11.695	16.526	19.722	19.268
<b>160.0</b>	5.403	7.010	8.762	10.515	14.728	17.661	17.270
<b>162.5</b>	4.204	5.621	7.718	9.262	12.213	15.209	14.546
<b>165.0</b>	3.405	5.212	6.765	8.317	11.087	12.685	12.349
<b>167.5</b>	2.452	3.432	5.757	6.919	9.924	11.931	11.786
<b>170.0</b>	1.562	2.497	4.304	5.412	7.918	10.306	10.524
<b>172.5</b>	0.663	1.153	2.688	3.714	5.675	8.490	8.735
<b>175.0</b>	0.409	0.563	1.380	2.070	2.860	5.966	6.202
<b>177.5</b>	0.563	0.527	0.572	0.799	1.199	2.524	2.697
<b>180.0</b>	0.390	0.390	0.390	0.390	0.390	0.390	0.390

**IES INDOOR REPORT**  
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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	5.62	N.A.	2.10
0-30	13.85	N.A.	5.30
0-40	26.18	N.A.	10.00
0-60	63.32	N.A.	24.20
0-80	111.38	N.A.	42.60
0-90	136.71	N.A.	52.30
10-90	135.46	N.A.	51.80
20-40	20.57	N.A.	7.90
20-50	37.18	N.A.	14.20
40-70	60.37	N.A.	23.10
60-80	48.06	N.A.	18.40
70-80	24.82	N.A.	9.50
80-90	25.33	N.A.	9.70
90-110	48.15	N.A.	18.40
90-120	69.10	N.A.	26.40
90-130	87.88	N.A.	33.60
90-150	116.45	N.A.	44.50
90-180	124.77	N.A.	47.70
110-180	76.62	N.A.	29.30
0-180	261.47	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1.25
10-20	4.37
20-30	8.23
30-40	12.33
40-50	16.61
50-60	20.53
60-70	23.24
70-80	24.82
80-90	25.33
90-100	24.76
100-110	23.39
110-120	20.95
120-130	18.79
130-140	16.61
140-150	11.95
150-160	5.91
160-170	2.12
170-180	0.29

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : PNA-7562W.IES**

**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	94	87	81	76	86	80	75	70	67	63	59	55	52	49	44	42	40	34
2	83	73	65	58	76	67	60	54	56	50	46	46	41	37	36	33	30	25
3	75	63	54	46	68	58	50	43	48	41	36	39	34	30	30	26	23	19
4	68	55	45	38	62	50	42	35	42	35	29	34	28	24	26	22	19	15
5	62	48	39	32	56	44	36	29	37	30	25	30	24	20	23	19	16	12
6	57	43	33	27	51	39	31	25	33	26	21	26	21	17	21	16	13	10
7	52	38	29	23	47	35	27	21	29	23	18	24	18	15	19	14	11	8
8	48	34	26	20	44	32	24	18	26	20	15	22	16	13	17	13	10	7
9	45	31	23	17	41	29	21	16	24	18	14	20	15	11	15	11	9	6
10	42	29	21	15	38	26	19	14	22	16	12	18	13	10	14	10	8	6

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**UGR TABLE - CORRECTED**

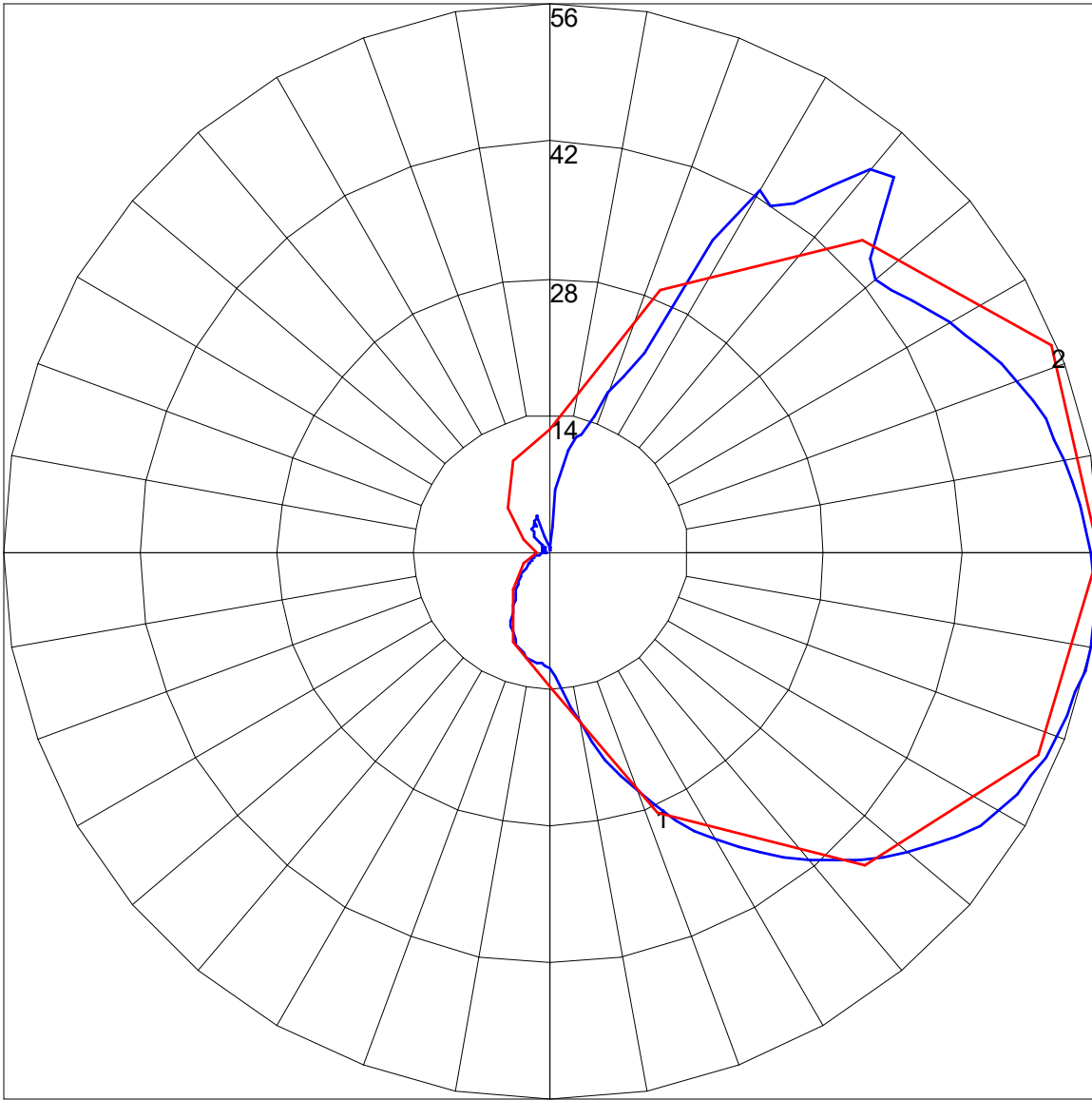
Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	11.8	12.8	12.7	13.8	15.0	4.5	5.6	5.4	6.5	7.7
	3H	15.0	15.9	15.9	16.9	18.1	6.6	7.6	7.5	8.5	9.8
	4H	16.5	17.4	17.4	18.4	19.6	7.6	8.5	8.5	9.5	10.7
	6H	18.0	18.9	19.0	19.8	21.1	8.5	9.3	9.4	10.3	11.6
	8H	18.7	19.6	19.7	20.6	21.8	8.9	9.7	9.8	10.7	12.0
	12H	19.5	20.3	20.4	21.2	22.5	9.3	10.1	10.3	11.1	12.4
4H	2H	12.2	13.1	13.1	14.1	15.3	6.4	7.3	7.4	8.3	9.6
	3H	15.6	16.4	16.5	17.4	18.7	8.7	9.5	9.7	10.5	11.8
	4H	17.3	18.1	18.3	19.1	20.3	9.8	10.5	10.8	11.5	12.8
	6H	19.1	19.7	20.0	20.7	22.0	10.8	11.5	11.8	12.5	13.8
	8H	19.9	20.6	20.9	21.6	22.9	11.3	11.9	12.2	12.9	14.2
	12H	20.8	21.3	21.8	22.4	23.7	11.7	12.2	12.7	13.3	14.6
8H	4H	17.6	18.2	18.6	19.2	20.5	11.2	11.8	12.2	12.8	14.1
	6H	19.6	20.1	20.5	21.1	22.4	12.5	13.0	13.4	14.0	15.3
	8H	20.6	21.1	21.6	22.1	23.4	13.0	13.5	14.0	14.6	15.9
	12H	21.6	22.1	22.6	23.1	24.4	13.6	14.0	14.6	15.0	16.4
12H	4H	17.6	18.2	18.6	19.2	20.5	11.6	12.1	12.6	13.2	14.5
	6H	19.6	20.1	20.6	21.1	22.5	13.0	13.5	14.0	14.5	15.9
	8H	20.7	21.2	21.7	22.2	23.5	13.7	14.2	14.7	15.2	16.5

Maximum UGR = 24.4

POLAR GRAPH



Maximum Candela = 55.515 Located At Horizontal Angle = 0, Vertical Angle = 80  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (80) (Through Max. Cd.)