



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-P52-835-D-POE_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18872.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 26-JUN-2020

[MANUFAC] WILLIAMS LINEAR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 22" LED ARRAYS-SERIES 2x2' RECESSED LUMINAIRE w/WHITE

[MORE] REFL, FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-22-P52-835-D-PoE

[SEARCH_SOURCETYPE] LED

[SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Educational, Office, Direct

[SEARCH_MOUNTING] Ceiling, Recessed

[SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5241
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	46.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.76 ft
Luminous Width (90-270)	1.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	5228	5903	6561
55	4607	5547	6088
65	3977	5151	5870
75	3355	4937	5488
85	2206	2704	2420

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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	1979.118	1979.118	1979.118	1979.118	1979.118
5	1980.910	1973.740	1971.947	1970.154	1970.154
10	1939.679	1937.886	1936.093	1945.057	1954.020
15	1867.971	1873.350	1889.484	1903.825	1921.752
20	1769.374	1785.508	1817.776	1850.045	1882.313
25	1647.472	1672.569	1720.972	1774.752	1817.776
30	1521.984	1552.460	1611.618	1692.289	1737.106
35	1385.741	1407.253	1489.716	1591.899	1631.338
40	1229.778	1258.461	1349.887	1468.204	1498.680
45	1068.437	1104.290	1206.473	1317.619	1340.924
50	910.681	950.120	1063.059	1154.485	1175.997
55	763.681	804.913	919.644	993.144	1009.278
60	616.682	670.462	774.437	838.974	862.279
65	485.816	539.596	629.230	683.011	717.072
70	367.499	406.938	503.743	537.804	568.279
75	250.975	288.621	369.292	380.048	410.523
80	143.414	173.890	222.292	177.475	179.268
85	55.573	60.951	68.122	57.366	60.951
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	720.35	N.A.	13.70
0-30	1515.68	N.A.	28.90
0-40	2452.34	N.A.	46.80
0-60	4192.59	N.A.	80.00
0-80	5157.43	N.A.	98.40
0-90	5240.73	N.A.	100.00
10-90	5053.46	N.A.	96.40
20-40	1731.99	N.A.	33.00
20-50	2664.44	N.A.	50.80
40-70	2349.7	N.A.	44.80
60-80	964.84	N.A.	18.40
70-80	355.39	N.A.	6.80
80-90	83.30	N.A.	1.60
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	5240.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	187.27
10-20	533.07
20-30	795.34
30-40	936.66
40-50	932.44
50-60	807.80
60-70	609.45
70-80	355.39
80-90	83.30
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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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	10	0
0	378	378	378	378	370	370	370	370	353	353	353	338	338	338	324	324	324	318
1	346	331	318	306	338	324	312	301	311	301	292	298	290	283	287	280	274	268
2	315	290	268	250	307	284	264	247	272	256	241	262	248	236	252	241	231	224
3	288	255	229	209	280	250	226	207	240	220	203	232	214	200	223	209	196	189
4	264	226	199	177	257	222	196	176	214	192	174	207	187	171	200	183	169	162
5	243	202	174	153	236	199	172	152	192	169	151	186	165	149	180	162	148	141
6	225	183	154	134	219	180	153	134	174	150	132	169	147	131	164	145	130	124
7	208	166	138	119	203	163	137	118	158	135	118	154	133	117	149	130	116	110
8	194	152	125	106	189	149	124	106	145	122	105	141	120	105	137	118	104	98
9	182	139	113	96	177	137	113	96	134	111	95	130	109	95	127	108	94	88
10	170	129	104	87	166	127	103	87	124	102	86	121	100	86	118	99	86	80

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UGR TABLE - CORRECTED

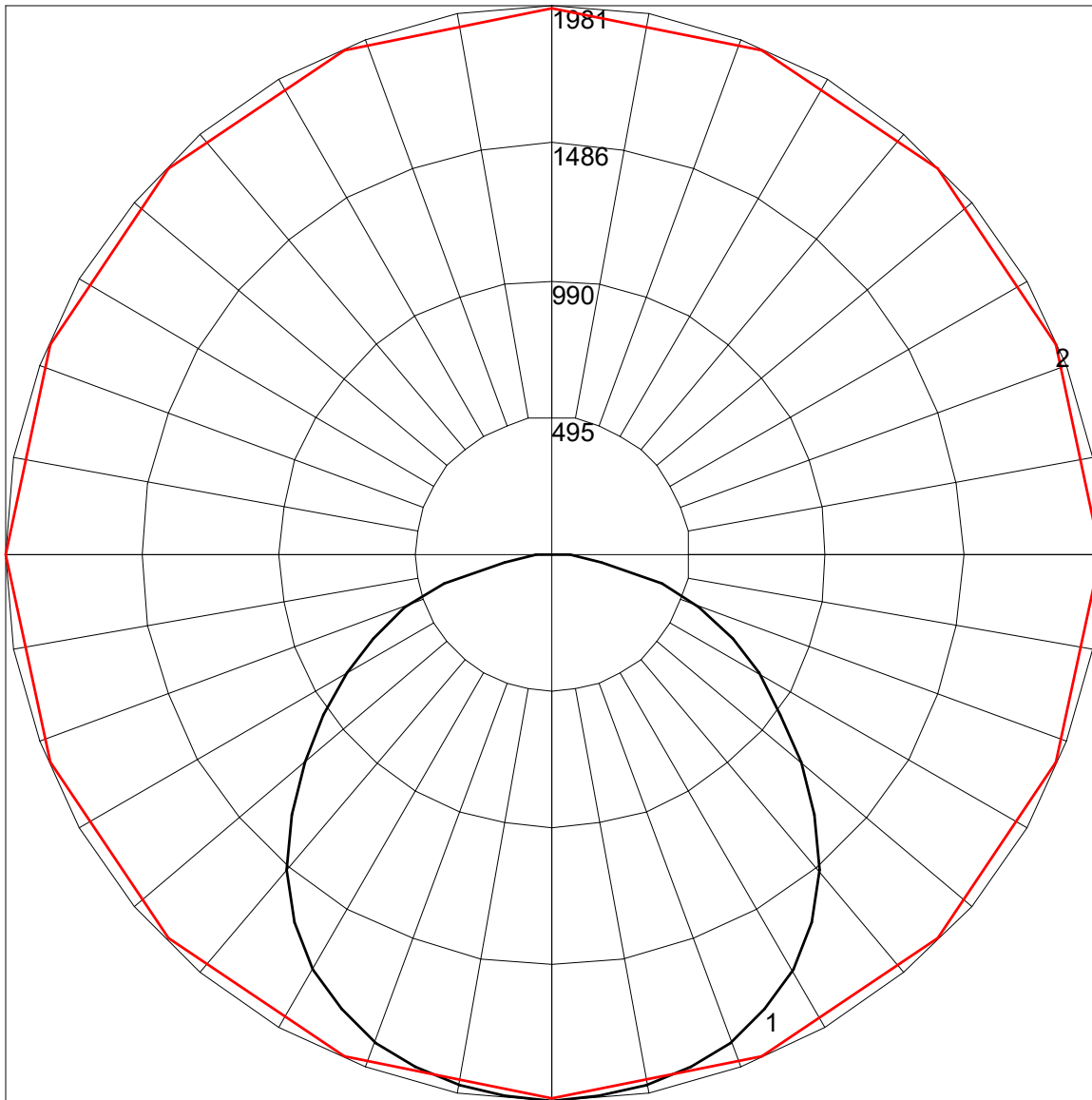
Reflectances

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	12.9	14.5	13.3	14.8	15.2	14.5	16.1	14.9	16.5	16.8
	3H	14.5	16.0	14.9	16.3	16.7	16.5	17.9	16.9	18.3	18.6
	4H	15.1	16.5	15.5	16.9	17.2	17.2	18.6	17.6	19.0	19.3
	6H	15.5	16.8	16.0	17.2	17.6	17.6	18.9	18.0	19.3	19.7
	8H	15.7	16.9	16.1	17.3	17.7	17.7	18.9	18.1	19.3	19.7
	12H	15.7	16.9	16.1	17.3	17.7	17.7	18.9	18.2	19.3	19.7
4H	2H	13.8	15.2	14.2	15.5	15.9	15.1	16.4	15.5	16.8	17.2
	3H	15.7	16.8	16.1	17.2	17.6	17.2	18.4	17.7	18.8	19.2
	4H	16.4	17.4	16.8	17.8	18.3	18.1	19.2	18.6	19.6	20.0
	6H	16.9	17.8	17.3	18.2	18.7	18.6	19.5	19.1	20.0	20.4
	8H	17.0	17.9	17.5	18.3	18.8	18.7	19.6	19.2	20.0	20.5
	12H	17.1	17.9	17.6	18.4	18.8	18.8	19.6	19.3	20.0	20.5
8H	4H	16.9	17.7	17.3	18.2	18.6	18.4	19.2	18.9	19.7	20.2
	6H	17.5	18.2	18.0	18.7	19.2	19.0	19.7	19.5	20.2	20.7
	8H	17.7	18.4	18.2	18.9	19.4	19.1	19.8	19.7	20.3	20.8
	12H	17.9	18.4	18.4	18.9	19.5	19.3	19.8	19.8	20.3	20.9
12H	4H	16.9	17.7	17.4	18.2	18.6	18.4	19.2	18.9	19.7	20.1
	6H	17.6	18.3	18.1	18.7	19.3	19.0	19.7	19.6	20.1	20.7
	8H	17.9	18.5	18.4	18.9	19.5	19.2	19.8	19.7	20.3	20.8

Maximum UGR = 20.9

POLAR GRAPH



Maximum Candela = 1980.91 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)