



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L50-835-D-DIM-UNV_.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] 19-DEC-2019

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 2-56 LED 22" ARRAYS-SERIES 2x2 'RECESSED LUMINAIRE w/WHITE

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

[MORE] DIFFUSER

[LUMCAT] AT1-22-L50-835-D-DIM-UNV

[_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	5057
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	48.3
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	5044	5696	6331
55	4445	5353	5874
65	3838	4970	5664
75	3237	4763	5295
85	2129	2609	2335

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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	1909.622	1909.622	1909.622	1909.622	1909.622
5	1911.352	1904.433	1902.703	1900.973	1900.973
10	1871.568	1869.838	1868.108	1876.757	1885.406
15	1802.379	1807.568	1823.135	1836.973	1854.271
20	1707.244	1722.811	1753.946	1785.081	1816.217
25	1589.622	1613.838	1660.541	1712.433	1753.946
30	1468.541	1497.946	1555.027	1632.865	1676.108
35	1337.081	1357.838	1437.406	1536.000	1574.054
40	1186.595	1214.270	1302.487	1416.649	1446.054
45	1030.919	1065.514	1164.108	1271.352	1293.838
50	878.703	916.757	1025.730	1113.946	1134.703
55	736.865	776.649	887.351	958.270	973.838
60	595.027	646.919	747.243	809.514	832.000
65	468.757	520.649	607.135	659.027	691.892
70	354.595	392.649	486.054	518.919	548.324
75	242.162	278.487	356.324	366.703	396.108
80	138.378	167.784	214.487	171.243	172.973
85	53.622	58.811	65.730	55.351	58.811
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	695.05	N.A.	13.70
0-30	1462.46	N.A.	28.90
0-40	2366.23	N.A.	46.80
0-60	4045.37	N.A.	80.00
0-80	4976.33	N.A.	98.40
0-90	5056.7	N.A.	100.00
10-90	4876.01	N.A.	96.40
20-40	1671.18	N.A.	33.00
20-50	2570.88	N.A.	50.80
40-70	2267.19	N.A.	44.80
60-80	930.96	N.A.	18.40
70-80	342.91	N.A.	6.80
80-90	80.38	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	5056.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	180.70
10-20	514.35
20-30	767.41
30-40	903.77
40-50	899.70
50-60	779.44
60-70	588.05
70-80	342.91
80-90	80.38
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	199	199	199	199	194	194	194	194	186	186	186	178	178	178	170	170	170	167
1	182	174	167	161	177	170	164	158	163	158	153	157	152	148	151	147	144	141
2	166	152	141	131	161	149	139	130	143	134	127	138	130	124	133	127	121	118
3	151	134	120	110	147	131	119	109	126	116	107	122	113	105	117	110	103	99
4	139	119	104	93	135	117	103	93	112	101	91	109	98	90	105	96	89	85
5	128	106	92	81	124	105	91	80	101	89	79	98	87	78	95	85	78	74
6	118	96	81	71	115	94	80	70	91	79	70	89	77	69	86	76	68	65
7	110	87	73	62	107	86	72	62	83	71	62	81	70	61	79	69	61	58
8	102	80	66	56	99	78	65	56	76	64	55	74	63	55	72	62	55	51
9	95	73	60	50	93	72	59	50	70	58	50	68	58	50	67	57	49	46
10	90	68	54	46	87	67	54	46	65	53	45	63	53	45	62	52	45	42

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UGR TABLE - CORRECTED

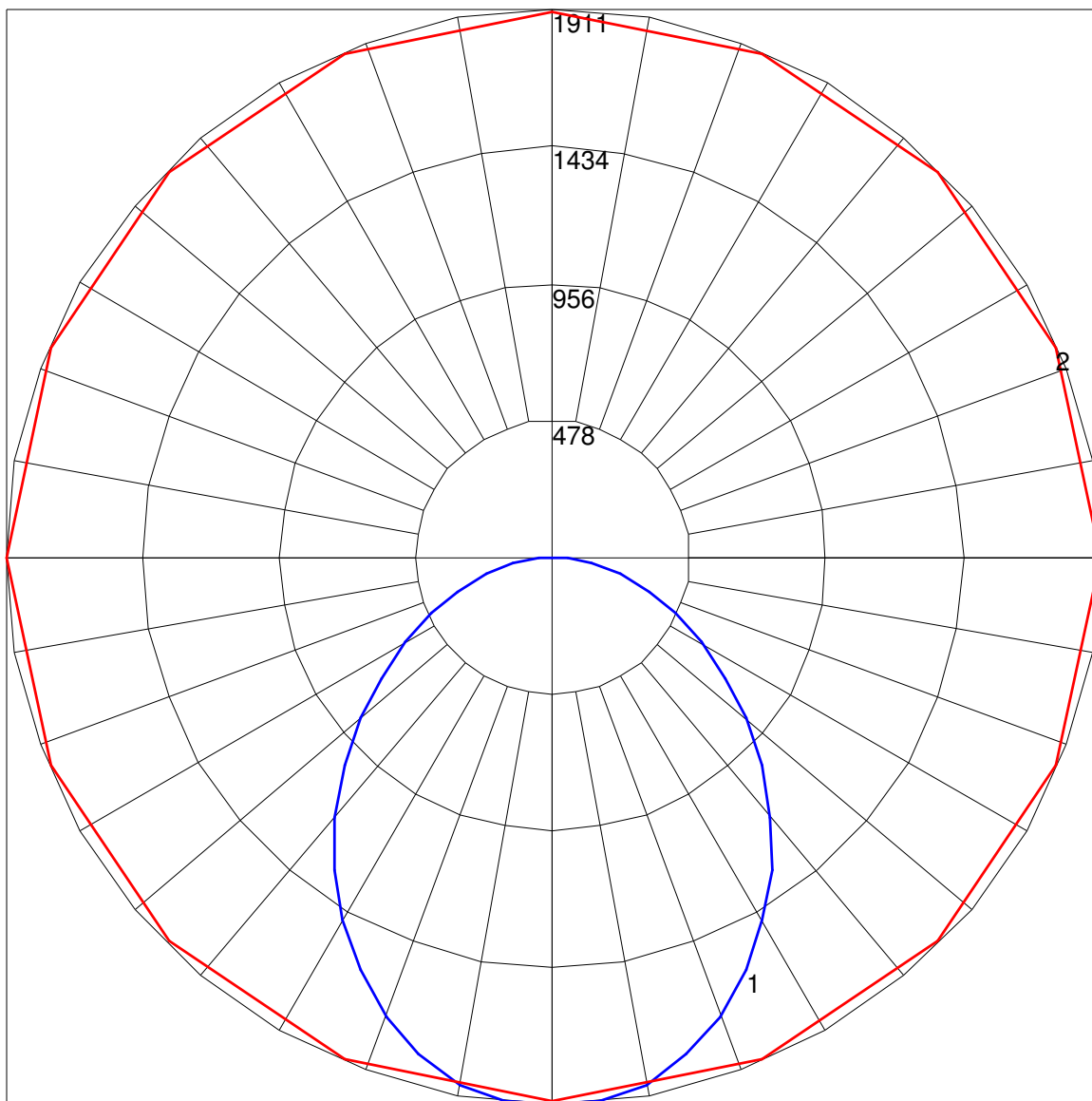
Reflectances

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	15.1	16.7	15.5	17.0	17.4	16.7	18.4	17.1	18.7	19.0
	3H	16.7	18.2	17.1	18.5	18.9	18.7	20.1	19.1	20.5	20.8
	4H	17.3	18.7	17.7	19.1	19.4	19.4	20.8	19.8	21.2	21.5
	6H	17.7	19.0	18.2	19.4	19.8	19.8	21.1	20.2	21.5	21.9
	8H	17.9	19.1	18.3	19.5	19.9	19.9	21.1	20.4	21.5	21.9
	12H	17.9	19.1	18.3	19.5	19.9	19.9	21.1	20.4	21.5	21.9
4H	2H	16.0	17.4	16.4	17.7	18.1	17.3	18.6	17.7	19.0	19.4
	3H	17.9	19.0	18.3	19.4	19.8	19.4	20.6	19.9	21.0	21.4
	4H	18.6	19.6	19.0	20.0	20.5	20.3	21.4	20.8	21.8	22.2
	6H	19.1	20.0	19.5	20.4	20.9	20.8	21.7	21.3	22.2	22.6
	8H	19.2	20.1	19.7	20.5	21.0	20.9	21.8	21.4	22.2	22.7
	12H	19.3	20.1	19.8	20.6	21.0	21.0	21.8	21.5	22.2	22.7
8H	4H	19.1	19.9	19.5	20.4	20.8	20.6	21.4	21.1	21.9	22.4
	6H	19.7	20.4	20.2	20.9	21.4	21.2	21.9	21.7	22.4	22.9
	8H	19.9	20.6	20.4	21.1	21.6	21.3	22.0	21.9	22.5	23.0
	12H	20.1	20.6	20.6	21.1	21.7	21.5	22.0	22.0	22.5	23.1
12H	4H	19.1	19.9	19.6	20.4	20.8	20.6	21.4	21.1	21.9	22.3
	6H	19.8	20.5	20.3	20.9	21.5	21.2	21.9	21.8	22.3	22.9
	8H	20.1	20.7	20.6	21.1	21.7	21.4	22.0	21.9	22.5	23.1

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1911.352 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)