



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L40-835-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] 05-21-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836

[LUMINAIRE] 2x2' RECESSED LUMINAIRE

[MORE] WITH FROST CONCAVE ACRYLIC LENS w/SHALLOW ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT1-22-L40-835-D-DIM-UNV

[LAMPCAT] HLM 80 CRI, 3500K CCT

[_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	4025
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	37.9
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	4015	4533	5039
55	3538	4260	4675
65	3054	3956	4508
75	2576	3791	4214
85	1694	2077	1858

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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	1519.841	1519.841	1519.841	1519.841	1519.841
5	1521.218	1515.711	1514.335	1512.958	1512.958
10	1489.555	1488.178	1486.801	1493.685	1500.568
15	1434.488	1438.618	1451.008	1462.021	1475.788
20	1358.771	1371.161	1395.941	1420.721	1445.501
25	1265.158	1284.431	1321.601	1362.901	1395.941
30	1168.791	1192.194	1237.625	1299.575	1333.991
35	1064.164	1080.684	1144.011	1222.481	1252.768
40	944.394	966.421	1036.631	1127.491	1150.894
45	820.494	848.027	926.498	1011.851	1029.748
50	699.347	729.634	816.364	886.574	903.094
55	586.461	618.124	706.231	762.674	775.064
60	473.574	514.874	594.721	644.281	662.177
65	373.077	414.377	483.210	524.510	550.667
70	282.217	312.504	386.844	413.000	436.404
75	192.734	221.644	283.594	291.854	315.257
80	110.133	133.537	170.707	136.290	137.667
85	42.677	46.807	52.313	44.053	46.807
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	553.18	N.A.	13.70
0-30	1163.95	N.A.	28.90
0-40	1883.25	N.A.	46.80
0-60	3219.65	N.A.	80.00
0-80	3960.59	N.A.	98.40
0-90	4024.56	N.A.	100.00
10-90	3880.75	N.A.	96.40
20-40	1330.07	N.A.	33.00
20-50	2046.12	N.A.	50.80
40-70	1804.42	N.A.	44.80
60-80	740.94	N.A.	18.40
70-80	272.92	N.A.	6.80
80-90	63.97	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	4024.56	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	143.81
10-20	409.37
20-30	610.77
30-40	719.30
40-50	716.06
50-60	620.34
60-70	468.02
70-80	272.92
80-90	63.97
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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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

X=2H	Y=2H	16.0	17.6	16.4	17.9	18.3	17.6	19.2	18.0	19.6	19.9
	3H	17.6	19.1	18.0	19.4	19.8	19.6	21.0	20.0	21.4	21.7
	4H	18.2	19.6	18.6	20.0	20.3	20.3	21.7	20.7	22.1	22.4
	6H	18.6	19.9	19.1	20.3	20.7	20.7	22.0	21.1	22.4	22.8
	8H	18.8	20.0	19.2	20.4	20.8	20.8	22.0	21.3	22.4	22.8
	12H	18.8	20.0	19.2	20.4	20.8	20.8	22.0	21.3	22.4	22.8

UGR Viewed Endwise

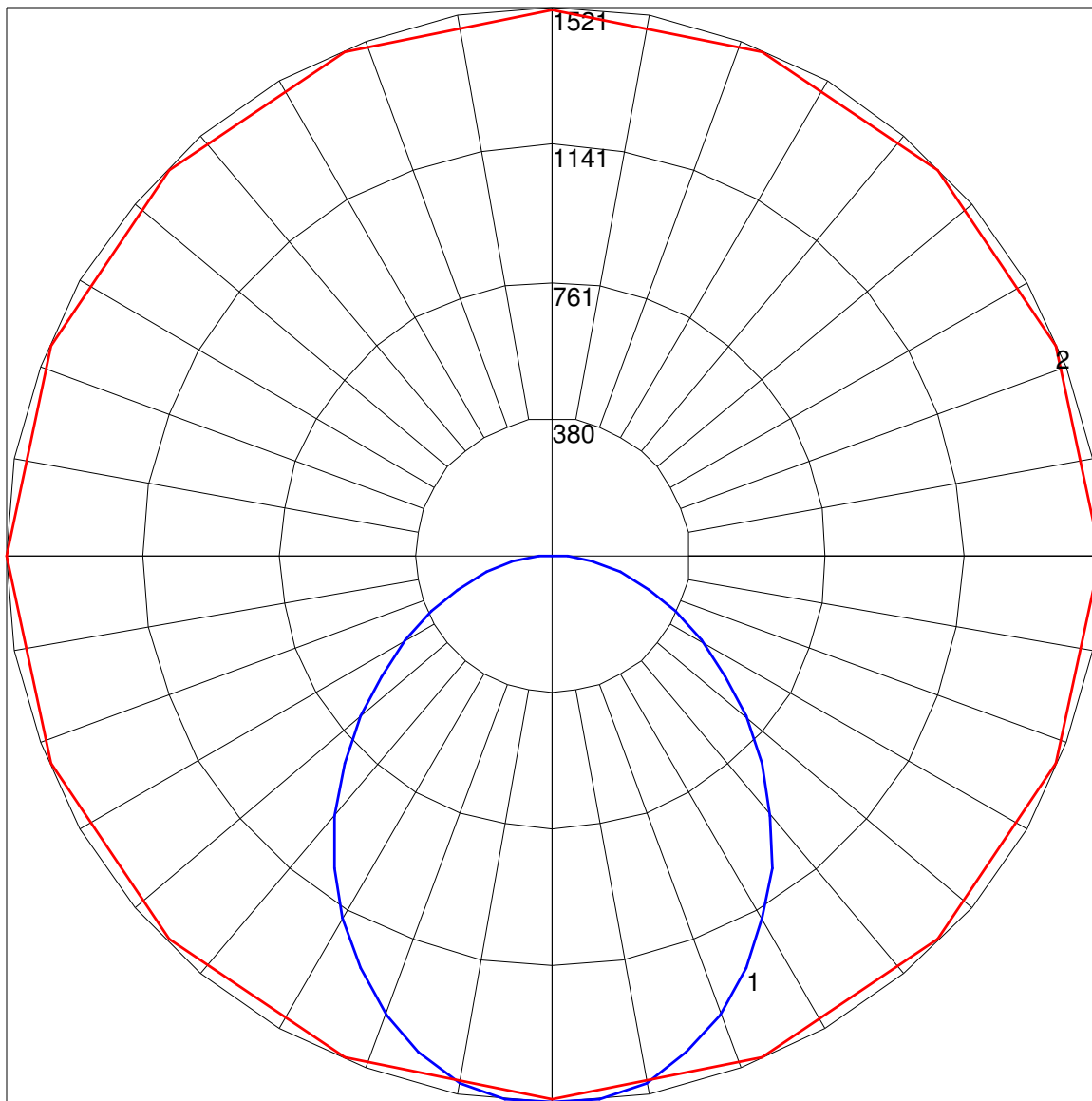
4H	2H	16.9	18.3	17.3	18.6	19.0	18.2	19.5	18.6	19.9	20.3
	3H	18.8	19.9	19.2	20.3	20.7	20.3	21.5	20.8	21.9	22.3
	4H	19.5	20.5	19.9	20.9	21.4	21.2	22.3	21.7	22.7	23.1
	6H	20.0	20.9	20.4	21.3	21.8	21.7	22.6	22.2	23.1	23.5
	8H	20.1	21.0	20.6	21.4	21.9	21.8	22.7	22.3	23.1	23.6
	12H	20.2	21.0	20.7	21.5	21.9	21.9	22.7	22.4	23.1	23.6

8H	4H	20.0	20.8	20.4	21.3	21.7	21.5	22.3	22.0	22.8	23.3
	6H	20.6	21.3	21.1	21.8	22.3	22.1	22.8	22.6	23.3	23.8
	8H	20.8	21.5	21.3	22.0	22.5	22.2	22.9	22.8	23.4	23.9
	12H	21.0	21.5	21.5	22.0	22.6	22.4	22.9	22.9	23.4	24.0

12H	4H	20.0	20.8	20.5	21.3	21.7	21.5	22.3	22.0	22.8	23.2
	6H	20.7	21.4	21.2	21.8	22.4	22.1	22.8	22.7	23.2	23.8
	8H	21.0	21.6	21.5	22.0	22.6	22.3	22.9	22.8	23.4	24.0

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 1521.218 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.)