

IES INDOOR REPORT

PHOTOMETRIC FILENAME : COPY_AT1-22-L40-835-D-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18874.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 08-10-2023

[MANUFAC] WILLIAMS INDOOR

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

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

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

[LAMPCAT] HLM 80 CRI 3500K CCT

[_SEARCH_SOURCETYPE] LED

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

[_SEARCH_MOUNTING] Ceiling, Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4298
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
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	4256	4847	5398
55	3771	4533	5011
65	3208	4158	4788
75	2535	3748	4194
85	1277	1642	1505

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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	1668.480	1668.480	1668.480	1668.480	1668.480
5	1663.884	1659.287	1658.138	1659.287	1659.287
10	1625.964	1622.516	1628.262	1635.157	1638.604
15	1565.062	1568.509	1584.596	1602.982	1611.026
20	1476.582	1485.775	1519.098	1554.720	1567.360
25	1378.909	1397.295	1436.364	1493.818	1515.651
30	1270.895	1285.833	1347.884	1412.233	1443.258
35	1134.153	1167.476	1246.764	1323.753	1355.927
40	1005.455	1044.524	1116.916	1205.396	1237.571
45	869.862	910.080	990.516	1074.400	1103.127
50	745.760	776.786	873.309	943.404	975.578
55	625.106	660.727	751.506	802.066	830.793
60	511.345	541.222	626.255	674.516	706.691
65	391.840	432.058	507.898	561.906	584.887
70	289.571	332.087	395.287	433.207	452.742
75	189.600	230.967	280.378	307.956	313.702
80	108.015	137.891	151.680	118.356	122.953
85	32.175	40.218	41.367	41.367	37.920
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	604.21	N.A.	14.10
0-30	1268.72	N.A.	29.50
0-40	2046.14	N.A.	47.60
0-60	3471.24	N.A.	80.80
0-80	4240.84	N.A.	98.70
0-90	4297.94	N.A.	100.00
10-90	4140.49	N.A.	96.30
20-40	1441.93	N.A.	33.50
20-50	2207.68	N.A.	51.40
40-70	1917.97	N.A.	44.60
60-80	769.59	N.A.	17.90
70-80	276.73	N.A.	6.40
80-90	57.10	N.A.	1.30
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	4297.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	157.45
10-20	446.76
20-30	664.52
30-40	777.41
40-50	765.75
50-60	659.36
60-70	492.86
70-80	276.73
80-90	57.10
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	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	91	85	79	97	90	83	78	86	81	76	83	79	75	80	76	73	71
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	47	57	51	47	45
6	71	58	49	43	69	57	49	43	55	48	42	53	47	42	52	46	41	39
7	66	53	44	38	64	52	44	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	57	44	36	31	56	44	36	31	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	38	32	27	26

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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	16.3	17.9	16.7	18.2	18.5	17.9	19.5	18.2	19.8	20.1
	3H	17.9	19.3	18.2	19.6	20.0	19.8	21.2	20.2	21.6	21.9
	4H	18.4	19.8	18.8	20.1	20.5	20.5	21.9	20.9	22.2	22.6
	6H	18.8	20.1	19.2	20.4	20.8	20.8	22.1	21.2	22.5	22.8
	8H	18.9	20.1	19.3	20.5	20.9	20.9	22.1	21.3	22.5	22.9
	12H	18.9	20.1	19.3	20.5	20.9	20.9	22.0	21.3	22.4	22.9

UGR Viewed Endwise

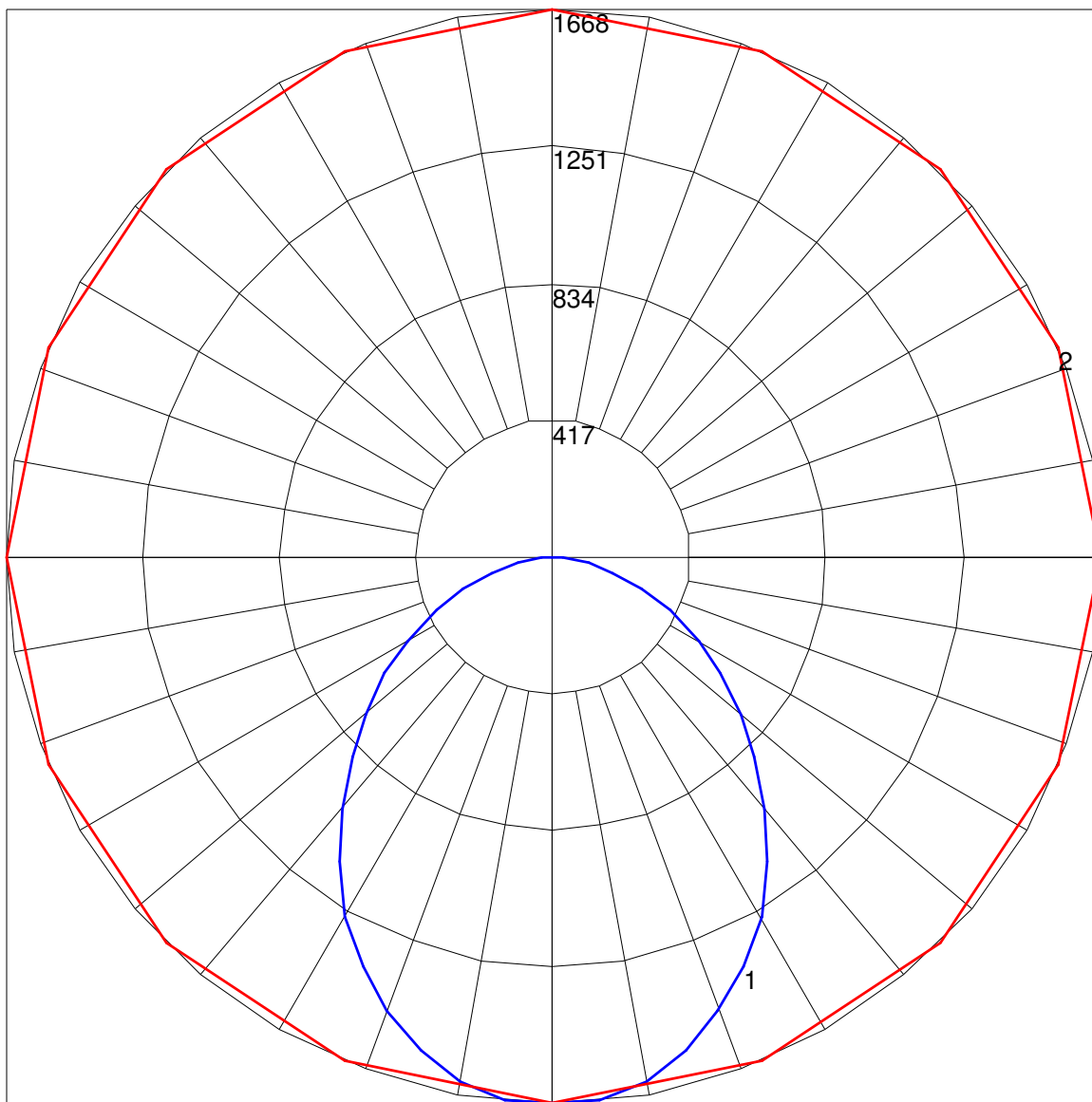
4H	2H	17.2	18.5	17.6	18.9	19.2	18.4	19.7	18.8	20.1	20.5
	3H	19.0	20.1	19.4	20.5	20.9	20.6	21.7	21.0	22.1	22.5
	4H	19.6	20.7	20.1	21.1	21.5	21.4	22.4	21.8	22.8	23.3
	6H	20.1	21.0	20.6	21.5	21.9	21.8	22.7	22.3	23.1	23.6
	8H	20.3	21.1	20.7	21.5	22.0	21.9	22.7	22.3	23.2	23.6
	12H	20.3	21.1	20.8	21.5	22.0	21.9	22.7	22.4	23.1	23.6

8H	4H	20.1	20.9	20.6	21.4	21.8	21.6	22.5	22.1	22.9	23.4
	6H	20.7	21.4	21.2	21.9	22.4	22.1	22.8	22.6	23.3	23.8
	8H	20.9	21.5	21.4	22.0	22.5	22.2	22.8	22.7	23.3	23.8
	12H	21.0	21.5	21.5	22.0	22.6	22.3	22.8	22.8	23.3	23.9

12H	4H	20.1	20.9	20.6	21.4	21.8	21.6	22.4	22.1	22.9	23.3
	6H	20.8	21.4	21.3	21.9	22.4	22.1	22.8	22.7	23.2	23.8
	8H	21.0	21.5	21.5	22.0	22.6	22.3	22.8	22.8	23.3	23.9

Maximum UGR = 23.9

POLAR GRAPH



Maximum Candela = 1668.48 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)