



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L50-8TW-D-DALI-UNV 4000K_.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] 2-JAN-2020

[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-L50-8TW-D-DALI-UNV 4000k

[_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	4973
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	91
Total Luminaire Watts	54.65
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	4960	5601	6226
55	4371	5264	5777
65	3774	4888	5570
75	3183	4684	5207
85	2093	2566	2296

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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	1877.895	1877.895	1877.895	1877.895	1877.895
5	1879.596	1872.792	1871.091	1869.390	1869.390
10	1840.473	1838.772	1837.071	1845.576	1854.081
15	1772.434	1777.537	1792.846	1806.453	1823.463
20	1678.879	1694.188	1724.806	1755.424	1786.042
25	1563.212	1587.026	1632.952	1683.982	1724.806
30	1444.142	1473.059	1529.192	1605.736	1648.261
35	1314.867	1335.279	1413.524	1510.481	1547.903
40	1166.881	1194.096	1280.847	1393.112	1422.029
45	1013.791	1047.811	1144.768	1250.229	1272.342
50	864.104	901.526	1008.688	1095.439	1115.851
55	724.623	763.745	872.609	942.350	957.658
60	585.141	636.171	734.829	796.064	818.177
65	460.969	511.999	597.048	648.078	680.397
70	348.703	386.125	477.979	510.298	539.214
75	238.139	273.860	350.404	360.610	389.527
80	136.079	164.996	210.923	168.398	170.099
85	52.731	57.834	64.638	54.432	57.834
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	683.50	N.A.	13.70
0-30	1438.16	N.A.	28.90
0-40	2326.91	N.A.	46.80
0-60	3978.16	N.A.	80.00
0-80	4893.65	N.A.	98.40
0-90	4972.69	N.A.	100.00
10-90	4795.00	N.A.	96.40
20-40	1643.41	N.A.	33.00
20-50	2528.16	N.A.	50.80
40-70	2229.52	N.A.	44.80
60-80	915.49	N.A.	18.40
70-80	337.21	N.A.	6.80
80-90	79.04	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	4972.69	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	177.69
10-20	505.81
20-30	754.66
30-40	888.75
40-50	884.75
50-60	766.49
60-70	578.28
70-80	337.21
80-90	79.04
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	290	290	290	290	284	284	284	284	271	271	271	259	259	259	249	249	249	244
1	266	254	244	235	259	249	239	231	238	231	224	229	223	217	220	215	210	205
2	242	222	206	192	236	218	202	190	209	196	185	201	190	181	194	185	177	172
3	221	196	176	160	215	192	173	159	184	169	156	178	164	153	171	160	151	145
4	203	174	152	136	197	170	151	135	164	147	133	159	144	132	153	140	130	125
5	186	155	134	118	181	153	132	117	147	130	116	143	127	114	138	124	113	108
6	172	140	119	103	168	138	117	103	133	115	102	129	113	101	125	111	100	95
7	160	127	106	91	156	125	105	91	122	103	90	118	102	90	115	100	89	84
8	149	116	96	82	145	115	95	81	111	94	81	108	92	80	105	91	80	75
9	139	107	87	74	136	105	86	73	103	85	73	100	84	73	97	83	72	68
10	131	99	80	67	128	97	79	67	95	78	66	93	77	66	91	76	66	61

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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	13.7	15.3	14.1	15.6	16.0	15.3	16.9	15.7	17.3	17.6
	3H	15.3	16.8	15.7	17.1	17.5	17.3	18.7	17.7	19.1	19.4
	4H	15.9	17.3	16.3	17.7	18.0	18.0	19.4	18.4	19.8	20.1
	6H	16.3	17.6	16.8	18.0	18.4	18.4	19.7	18.8	20.1	20.5
	8H	16.5	17.7	16.9	18.1	18.5	18.5	19.7	19.0	20.1	20.5
	12H	16.5	17.7	16.9	18.1	18.5	18.5	19.7	19.0	20.1	20.5

UGR Viewed Endwise

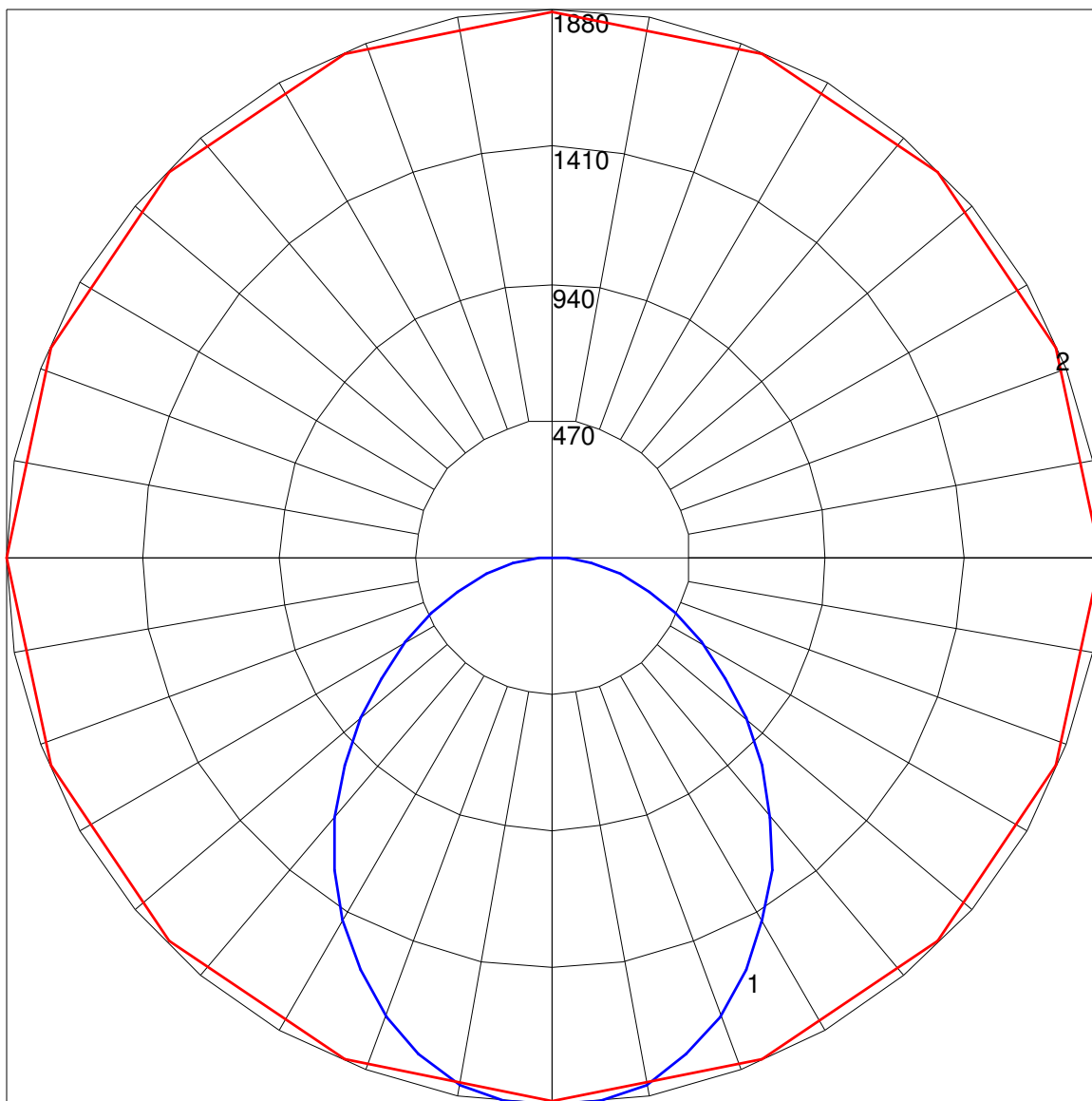
4H	2H	14.6	16.0	15.0	16.3	16.7	15.9	17.2	16.3	17.6	18.0
	3H	16.5	17.6	16.9	18.0	18.4	18.0	19.2	18.5	19.6	20.0
	4H	17.2	18.2	17.6	18.6	19.1	18.9	20.0	19.4	20.4	20.8
	6H	17.7	18.6	18.1	19.0	19.5	19.4	20.3	19.9	20.8	21.2
	8H	17.8	18.7	18.3	19.1	19.6	19.5	20.4	20.0	20.8	21.3
	12H	17.9	18.7	18.4	19.2	19.6	19.6	20.4	20.1	20.8	21.3

8H	4H	17.7	18.5	18.1	19.0	19.4	19.2	20.0	19.7	20.5	21.0
	6H	18.3	19.0	18.8	19.5	20.0	19.8	20.5	20.3	21.0	21.5
	8H	18.5	19.2	19.0	19.7	20.2	19.9	20.6	20.5	21.1	21.6
	12H	18.7	19.2	19.2	19.7	20.3	20.1	20.6	20.6	21.1	21.7

12H	4H	17.7	18.5	18.2	19.0	19.4	19.2	20.0	19.7	20.5	20.9
	6H	18.4	19.1	18.9	19.5	20.1	19.8	20.5	20.4	20.9	21.5
	8H	18.7	19.3	19.2	19.7	20.3	20.0	20.6	20.5	21.1	21.7

Maximum UGR = 21.7

POLAR GRAPH



Maximum Candela = 1879.596 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.)