



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT2-22-L50-8TW-D-DALI-UNV 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18882.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 03-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/DEEP ACRYLIC CENTER

[MORE] DIFFUSER

[LUMCAT] AT2-22-L50-8TW-D-DALI-UNV 4000k

[_SEARCH_SOURCETYPE] LED

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

[_SEARCH_MOUNTING] Ceiling, Recessed

[_SEARCH_CERTIFICATION] DLC

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5122
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	94
Total Luminaire Watts	54.65
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.16
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.28
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	5392	5782	6185
55	4722	5098	5519
65	4021	4511	4919
75	3200	3833	4333
85	1584	2375	2078

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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	2094.275	2094.275	2094.275	2094.275	2094.275
5	2089.288	2079.316	2081.809	2079.316	2079.316
10	2039.425	2039.425	2044.411	2046.904	2049.397
15	1959.643	1967.122	1982.081	1992.054	2002.027
20	1864.902	1874.874	1899.806	1922.245	1939.697
25	1737.749	1757.695	1792.599	1820.024	1844.956
30	1590.651	1610.597	1667.940	1702.845	1722.790
35	1438.567	1451.033	1520.842	1563.226	1590.651
40	1271.524	1286.483	1353.799	1401.169	1428.594
45	1101.987	1121.933	1181.769	1234.126	1264.044
50	937.437	959.876	1014.726	1057.110	1092.015
55	782.860	800.312	845.189	880.094	914.999
60	633.269	658.201	695.598	732.996	755.435
65	491.157	523.569	550.994	575.926	600.857
70	359.019	401.403	416.362	438.800	463.732
75	239.346	261.784	286.716	319.128	324.114
80	129.646	152.084	169.537	184.496	179.509
85	39.891	52.357	59.836	64.823	52.357
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	755.99	N.A.	14.80
0-30	1579.62	N.A.	30.80
0-40	2523.93	N.A.	49.30
0-60	4194.03	N.A.	81.90
0-80	5046.35	N.A.	98.50
0-90	5121.66	N.A.	100.00
10-90	4924.19	N.A.	96.10
20-40	1767.94	N.A.	34.50
20-50	2678.93	N.A.	52.30
40-70	2217.24	N.A.	43.30
60-80	852.32	N.A.	16.60
70-80	305.18	N.A.	6.00
80-90	75.31	N.A.	1.50
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	5121.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	197.48
10-20	558.51
20-30	823.63
30-40	944.31
40-50	910.99
50-60	759.11
60-70	547.14
70-80	305.18
80-90	75.31
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	267	256	246	237	260	250	241	233	240	232	225	230	224	219	221	217	212	207
2	244	224	208	195	237	220	205	193	211	199	188	203	193	184	196	187	180	175
3	223	198	179	164	217	194	177	162	187	172	159	180	168	157	174	163	154	149
4	205	176	156	140	199	173	154	139	167	150	137	162	147	135	156	144	133	128
5	189	158	137	121	184	156	136	121	151	133	119	146	130	118	141	128	117	112
6	175	143	122	107	170	141	121	106	137	119	105	132	117	104	129	115	104	99
7	162	130	109	95	158	128	109	94	125	107	94	121	105	93	118	103	92	88
8	151	119	99	85	148	118	98	85	114	97	84	111	95	84	109	94	83	79
9	142	110	90	77	138	108	89	77	105	88	76	103	87	76	100	86	75	71
10	133	101	83	70	130	100	82	70	98	81	69	96	80	69	93	79	69	65

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UGR TABLE - CORRECTED

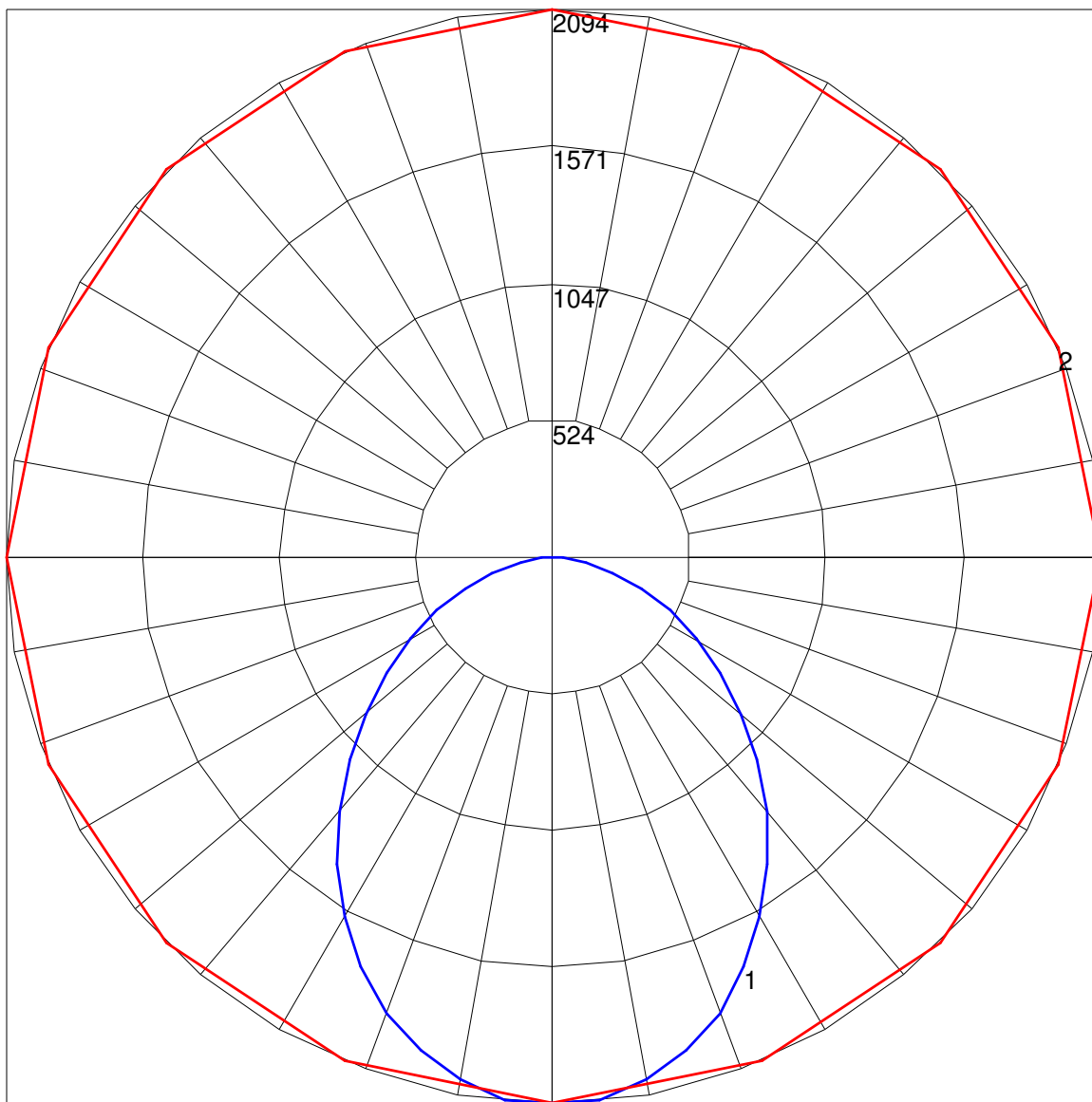
Reflectances

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	14.0	15.6	14.3	15.9	16.2	14.8	16.4	15.1	16.7	17.0
	3H	15.6	17.0	16.0	17.3	17.7	16.5	17.9	16.9	18.3	18.6
	4H	16.1	17.5	16.5	17.8	18.2	17.2	18.5	17.6	18.9	19.2
	6H	16.5	17.7	16.9	18.1	18.5	17.6	18.9	18.1	19.2	19.6
	8H	16.5	17.7	17.0	18.1	18.5	17.8	18.9	18.2	19.3	19.7
	12H	16.6	17.7	17.0	18.1	18.5	17.8	18.9	18.2	19.3	19.8
4H	2H	14.7	16.0	15.1	16.3	16.7	15.3	16.6	15.7	17.0	17.3
	3H	16.5	17.6	16.9	18.0	18.4	17.2	18.4	17.7	18.8	19.2
	4H	17.1	18.1	17.6	18.6	19.0	18.1	19.1	18.5	19.5	19.9
	6H	17.6	18.5	18.0	18.9	19.4	18.7	19.5	19.1	20.0	20.4
	8H	17.7	18.5	18.2	19.0	19.5	18.8	19.6	19.3	20.1	20.6
	12H	17.8	18.5	18.3	19.0	19.5	18.9	19.6	19.4	20.1	20.6
8H	4H	17.5	18.3	17.9	18.7	19.2	18.3	19.1	18.8	19.6	20.0
	6H	18.1	18.7	18.6	19.2	19.7	19.0	19.7	19.5	20.2	20.7
	8H	18.2	18.9	18.7	19.4	19.8	19.2	19.9	19.8	20.4	20.9
	12H	18.4	18.9	18.9	19.4	19.9	19.4	19.9	19.9	20.4	21.0
12H	4H	17.5	18.3	18.0	18.7	19.2	18.3	19.1	18.8	19.5	20.0
	6H	18.1	18.7	18.6	19.2	19.7	19.1	19.7	19.6	20.1	20.7
	8H	18.4	18.9	18.9	19.4	20.0	19.3	19.9	19.8	20.4	20.9

Maximum UGR = 21.0

POLAR GRAPH



Maximum Candela = 2094.275 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.)