



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-24-L50-8TW-D-DALI-UNV 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 18876.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 2-JAN-2020

[MANUFAC] WILLIAMS LINEAR

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

[LUMINAIRE] 4-32 LED 22" ARRAYS-SERIES 2x4 'RECESSED LUMINAIRE w/WHITE

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

[MORE] DIFFUSER

[LUMCAT] AT1-24-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	5020
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	47
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 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	2292	2680	2908
55	1988	2434	2623
65	1768	2317	2505
75	1509	2244	2305
85	1272	1363	1393

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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	1931.396	1931.396	1931.396	1931.396	1931.396
5	1933.026	1931.396	1936.286	1936.286	1937.915
10	1880.870	1882.500	1893.909	1903.688	1908.578
15	1815.675	1825.454	1846.643	1869.461	1882.500
20	1701.584	1726.032	1761.890	1805.896	1825.454
25	1566.305	1589.123	1647.799	1711.364	1739.071
30	1432.656	1463.623	1545.117	1626.610	1657.578
35	1315.305	1352.792	1450.584	1540.227	1572.825
40	1142.539	1186.545	1295.747	1383.760	1408.208
45	1000.740	1048.006	1170.247	1245.221	1269.669
50	847.532	901.318	1012.149	1077.344	1095.273
55	704.104	759.519	862.201	914.357	929.026
60	578.604	634.019	726.922	770.929	783.967
65	461.253	521.558	604.682	642.169	653.578
70	348.792	412.357	484.071	511.779	516.669
75	241.221	306.416	358.571	371.610	368.351
80	151.578	210.253	229.812	176.026	159.727
85	68.455	96.162	73.344	73.344	74.974
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	702.79	N.A.	14.00
0-30	1465.3	N.A.	29.20
0-40	2361.75	N.A.	47.00
0-60	3999.01	N.A.	79.70
0-80	4924.4	N.A.	98.10
0-90	5019.72	N.A.	100.00
10-90	4836.54	N.A.	96.40
20-40	1658.96	N.A.	33.00
20-50	2542.29	N.A.	50.60
40-70	2213.34	N.A.	44.10
60-80	925.39	N.A.	18.40
70-80	349.31	N.A.	7.00
80-90	95.33	N.A.	1.90
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	5019.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	183.18
10-20	519.61
20-30	762.50
30-40	896.46
40-50	883.33
50-60	753.93
60-70	576.09
70-80	349.31
80-90	95.33
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	170	170	170	170	166	166	166	166	158	158	158	151	151	151	145	145	145	142
1	155	148	142	137	151	145	140	135	139	134	130	133	130	126	128	125	123	120
2	141	130	120	112	137	127	118	111	122	114	108	117	111	105	113	108	103	100
3	129	114	103	93	125	112	101	93	108	98	91	104	96	89	100	93	88	85
4	118	101	89	79	115	99	88	79	96	86	78	93	84	77	89	82	76	73
5	109	91	78	69	106	89	77	68	86	76	68	83	74	67	81	73	66	63
6	101	82	69	60	98	81	69	60	78	67	59	76	66	59	73	65	58	55
7	94	74	62	53	91	73	62	53	71	61	53	69	60	52	67	59	52	49
8	87	68	56	48	85	67	56	48	65	55	47	63	54	47	62	53	47	44
9	82	63	51	43	79	62	51	43	60	50	43	59	49	43	57	49	42	40
10	76	58	47	39	75	57	46	39	56	46	39	54	45	39	53	45	39	36

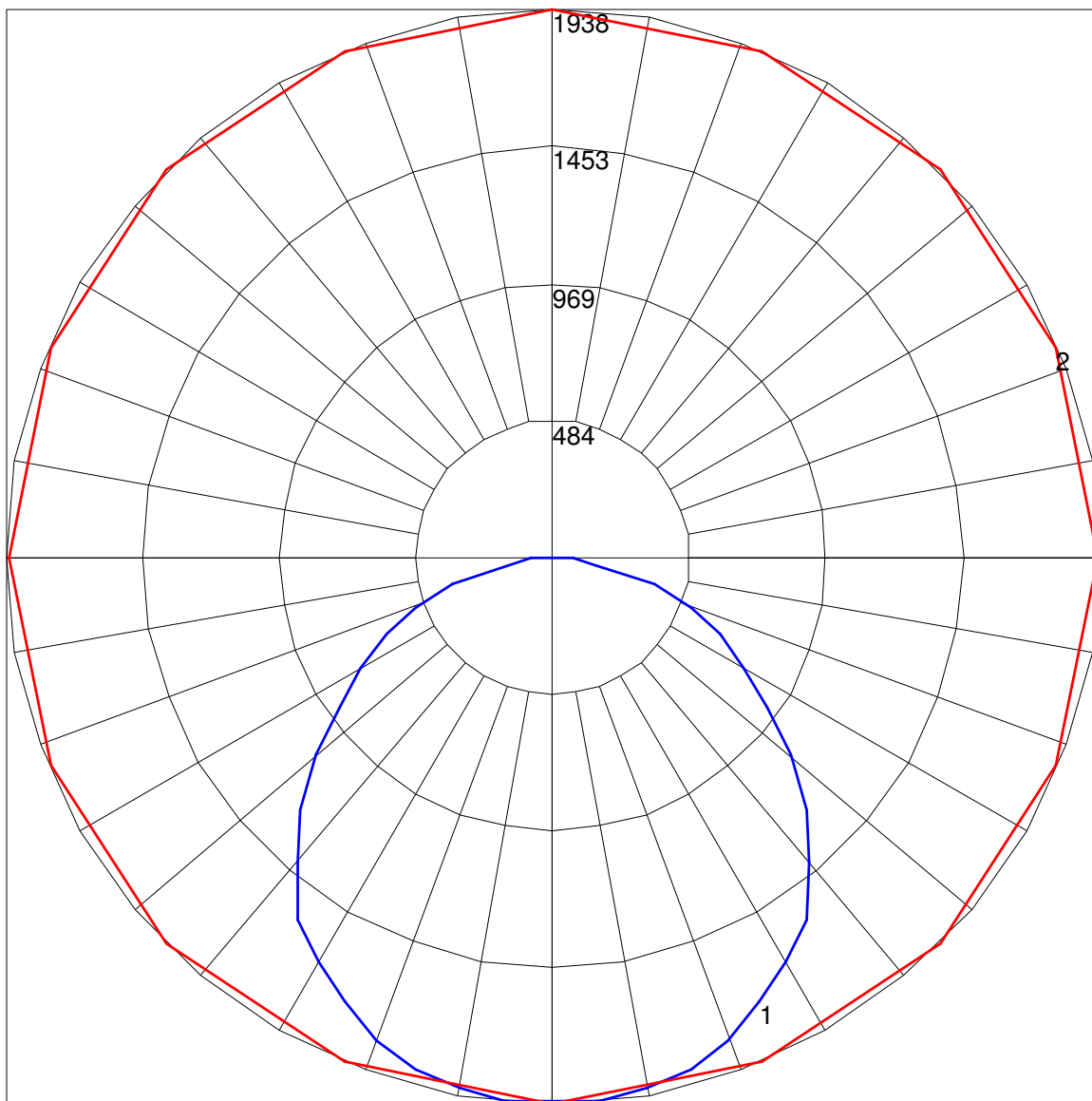
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UGR TABLE - CORRECTED

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	12.9	14.5	13.2	14.8	15.1	14.3	15.9	14.7	16.2	16.6
	3H	14.6	16.0	15.0	16.4	16.7	16.3	17.7	16.7	18.1	18.4
	4H	15.2	16.6	15.6	16.9	17.3	17.0	18.4	17.4	18.8	19.1
	6H	15.7	17.0	16.1	17.4	17.8	17.4	18.7	17.9	19.1	19.5
	8H	15.9	17.1	16.3	17.5	17.9	17.5	18.7	18.0	19.1	19.5
	12H	16.0	17.2	16.4	17.6	18.0	17.6	18.8	18.0	19.1	19.6
4H	2H	13.8	15.2	14.2	15.5	15.9	14.9	16.3	15.3	16.6	17.0
	3H	15.8	16.9	16.2	17.3	17.7	17.1	18.3	17.5	18.7	19.1
	4H	16.6	17.6	17.0	18.0	18.4	18.0	19.1	18.5	19.5	19.9
	6H	17.2	18.1	17.7	18.6	19.0	18.5	19.4	19.0	19.9	20.3
	8H	17.4	18.3	17.9	18.7	19.2	18.7	19.5	19.1	19.9	20.4
	12H	17.6	18.4	18.1	18.8	19.3	18.7	19.5	19.2	20.0	20.5
8H	4H	17.1	17.9	17.5	18.4	18.8	18.3	19.2	18.8	19.6	20.1
	6H	17.9	18.6	18.4	19.1	19.6	19.0	19.7	19.4	20.1	20.6
	8H	18.2	18.9	18.7	19.4	19.9	19.1	19.8	19.6	20.3	20.8
	12H	18.5	19.1	19.0	19.5	20.1	19.3	19.9	19.8	20.3	20.9
12H	4H	17.1	17.9	17.6	18.4	18.8	18.4	19.1	18.8	19.6	20.1
	6H	18.0	18.7	18.5	19.1	19.7	19.0	19.7	19.5	20.1	20.7
	8H	18.4	19.0	18.9	19.5	20.0	19.3	19.8	19.8	20.3	20.9

Maximum UGR = 20.9

POLAR GRAPH



Maximum Candela = 1937.915 Located At Horizontal Angle = 90, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)