



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-22-L35-8TW-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

[ISSUE DATE] 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-L35-8TW-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	3535
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	93
Total Luminaire Watts	37.99
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	3527	3982	4426
55	3108	3742	4107
65	2683	3475	3960
75	2263	3330	3702
85	1488	1824	1632

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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	1335.149	1335.149	1335.149	1335.149	1335.149
5	1336.358	1331.521	1330.311	1329.102	1329.102
10	1308.543	1307.333	1306.124	1312.171	1318.218
15	1260.168	1263.796	1274.680	1284.355	1296.449
20	1193.652	1204.536	1226.305	1248.074	1269.843
25	1111.415	1128.346	1160.999	1197.280	1226.305
30	1026.758	1047.318	1087.227	1141.649	1171.883
35	934.846	949.359	1004.990	1073.924	1100.530
40	829.631	848.981	910.659	990.477	1011.037
45	720.787	744.974	813.909	888.890	904.612
50	614.362	640.968	717.159	778.837	793.349
55	515.193	543.009	620.409	669.993	680.878
60	416.025	452.306	522.450	565.987	581.709
65	327.740	364.022	424.490	460.771	483.750
70	247.922	274.528	339.834	362.812	383.372
75	169.312	194.709	249.131	256.387	276.947
80	96.750	117.309	149.962	119.728	120.937
85	37.491	41.119	45.956	38.700	41.119
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	485.96	N.A.	13.70
0-30	1022.51	N.A.	28.90
0-40	1654.39	N.A.	46.80
0-60	2828.4	N.A.	80.00
0-80	3479.3	N.A.	98.40
0-90	3535.49	N.A.	100.00
10-90	3409.16	N.A.	96.40
20-40	1168.43	N.A.	33.00
20-50	1797.48	N.A.	50.80
40-70	1585.15	N.A.	44.80
60-80	650.90	N.A.	18.40
70-80	239.75	N.A.	6.80
80-90	56.20	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	3535.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	126.34
10-20	359.62
20-30	536.55
30-40	631.89
40-50	629.04
50-60	544.96
60-70	411.15
70-80	239.75
80-90	56.20
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	206	206	206	206	202	202	202	202	193	193	193	184	184	184	177	177	177	173
1	189	181	174	167	184	177	170	164	170	164	159	163	158	154	157	153	150	146
2	172	158	146	137	168	155	144	135	149	140	132	143	135	129	138	131	126	122
3	157	139	125	114	153	136	123	113	131	120	111	126	117	109	122	114	107	103
4	144	123	108	97	140	121	107	96	117	105	95	113	102	94	109	100	92	89
5	133	110	95	84	129	109	94	83	105	92	82	101	90	81	98	88	80	77
6	123	100	84	73	119	98	83	73	95	82	72	92	80	72	89	79	71	67
7	114	90	75	65	111	89	75	65	86	74	64	84	72	64	82	71	63	60
8	106	83	68	58	103	81	68	58	79	66	57	77	65	57	75	65	57	53
9	99	76	62	52	97	75	61	52	73	61	52	71	60	52	69	59	51	48
10	93	70	57	47	91	69	56	47	68	55	47	66	55	47	64	54	47	44

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UGR TABLE - CORRECTED

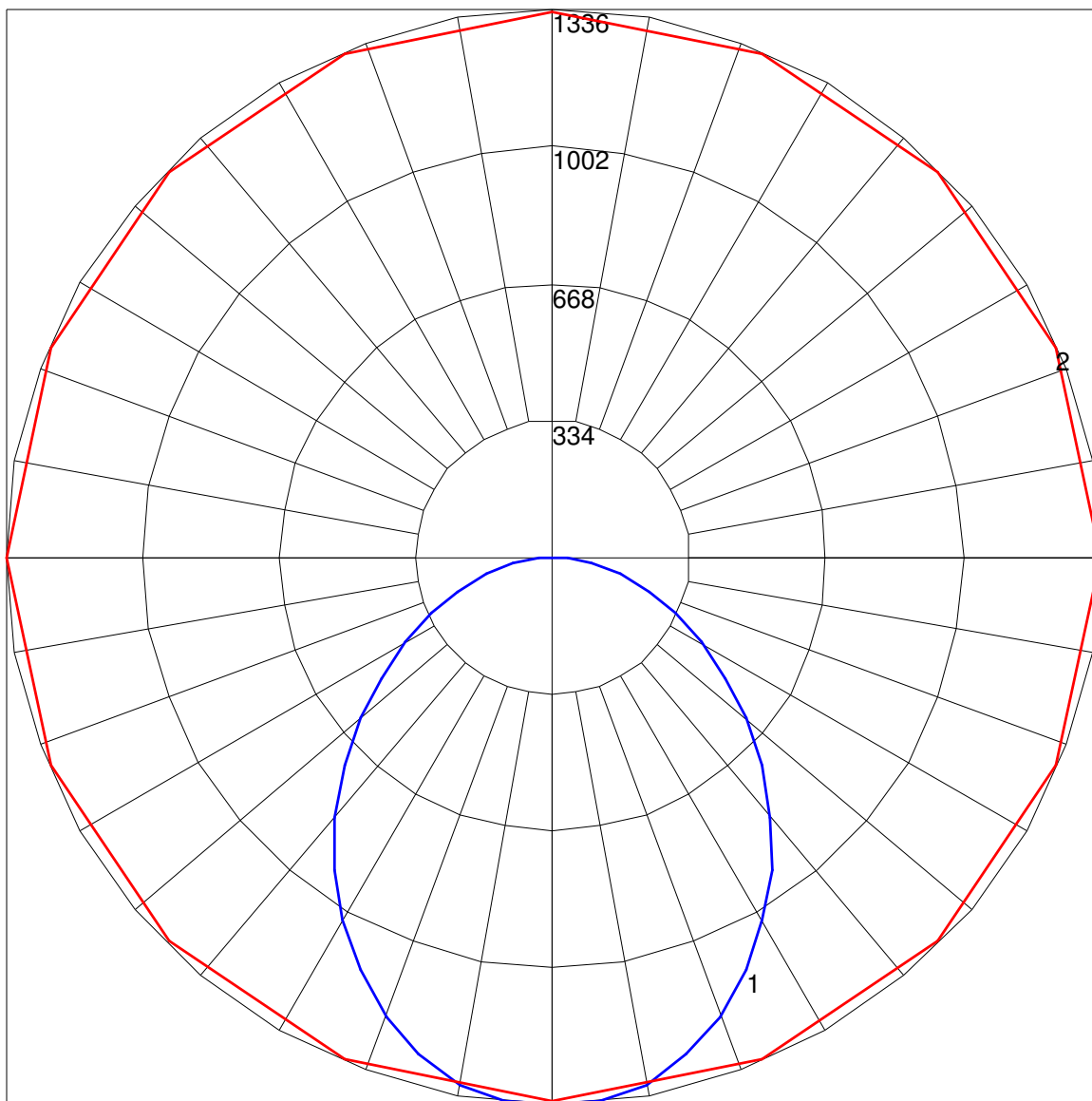
Reflectances

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	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
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 = 1336.358 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.)