



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT1-14-L40-8TW-D-DALI-UNV 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 19432.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 20-DEC-2019

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2-32 LED 22" ARRAYS 1x4' RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/2 PIECE FROSTED ACRLIC LENS IN DOOR

[LUMCAT] AT1-14-L40-8TW-D-DALI-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4007
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	92
Total Luminaire Watts	43.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.10
Spacing Criterion (Diagonal)	1.22
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	0.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4957	4866	4799
55	4160	4150	4047
65	3666	3666	2941
75	2891	2413	2162
85	2298	1420	1014

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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	1818.476	1818.476	1818.476	1818.476	1818.476
5	1832.770	1831.182	1831.182	1831.182	1829.594
10	1780.360	1777.183	1774.007	1770.831	1770.831
15	1710.480	1710.480	1700.950	1694.598	1694.598
20	1640.599	1635.835	1624.717	1612.012	1608.835
25	1488.133	1483.369	1467.487	1461.134	1453.193
30	1353.137	1346.784	1330.902	1318.197	1315.020
35	1235.611	1229.258	1214.965	1203.847	1197.495
40	1076.792	1068.851	1057.734	1046.617	1041.852
45	944.972	933.855	927.502	919.561	914.797
50	802.035	795.683	789.330	786.154	784.565
55	643.217	643.217	641.628	635.276	625.746
60	524.102	525.691	525.691	503.456	487.574
65	417.694	420.870	417.694	365.283	335.108
70	304.932	309.697	285.874	235.052	230.287
75	201.700	209.641	168.348	154.054	150.878
80	119.114	112.761	95.291	79.409	73.057
85	53.998	44.469	33.352	25.411	23.823
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	652.99	N.A.	16.30
0-30	1332.34	N.A.	33.20
0-40	2087.09	N.A.	52.10
0-60	3379.68	N.A.	84.30
0-80	3961.6	N.A.	98.90
0-90	4007.04	N.A.	100.00
10-90	3834.42	N.A.	95.70
20-40	1434.1	N.A.	35.80
20-50	2149.11	N.A.	53.60
40-70	1683.42	N.A.	42.00
60-80	581.92	N.A.	14.50
70-80	191.09	N.A.	4.80
80-90	45.44	N.A.	1.10
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	4007.04	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	172.61
10-20	480.37
20-30	679.35
30-40	754.75
40-50	715.01
50-60	577.58
60-70	390.83
70-80	191.09
80-90	45.44
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	234	234	234	234	229	229	229	229	218	218	218	209	209	209	201	201	201	197
1	216	207	200	193	211	203	196	190	195	189	184	187	182	178	180	176	173	169
2	198	183	171	160	193	179	168	158	172	163	155	166	158	151	160	154	148	144
3	182	162	148	136	177	159	146	134	154	142	132	148	138	130	143	135	128	124
4	167	145	129	117	163	143	128	116	138	125	114	133	122	113	129	119	111	107
5	155	131	114	102	151	129	113	101	124	111	100	121	109	99	117	107	98	94
6	143	118	102	90	140	117	101	89	113	99	89	110	97	88	107	96	87	83
7	133	108	92	80	130	106	91	80	103	89	79	101	88	79	98	87	78	74
8	124	99	83	72	121	98	82	72	95	81	71	93	80	71	91	79	71	67
9	117	91	76	65	114	90	75	65	88	74	65	86	73	65	84	73	64	61
10	110	85	70	60	107	84	69	60	82	68	59	80	68	59	78	67	59	55

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UGR TABLE - CORRECTED

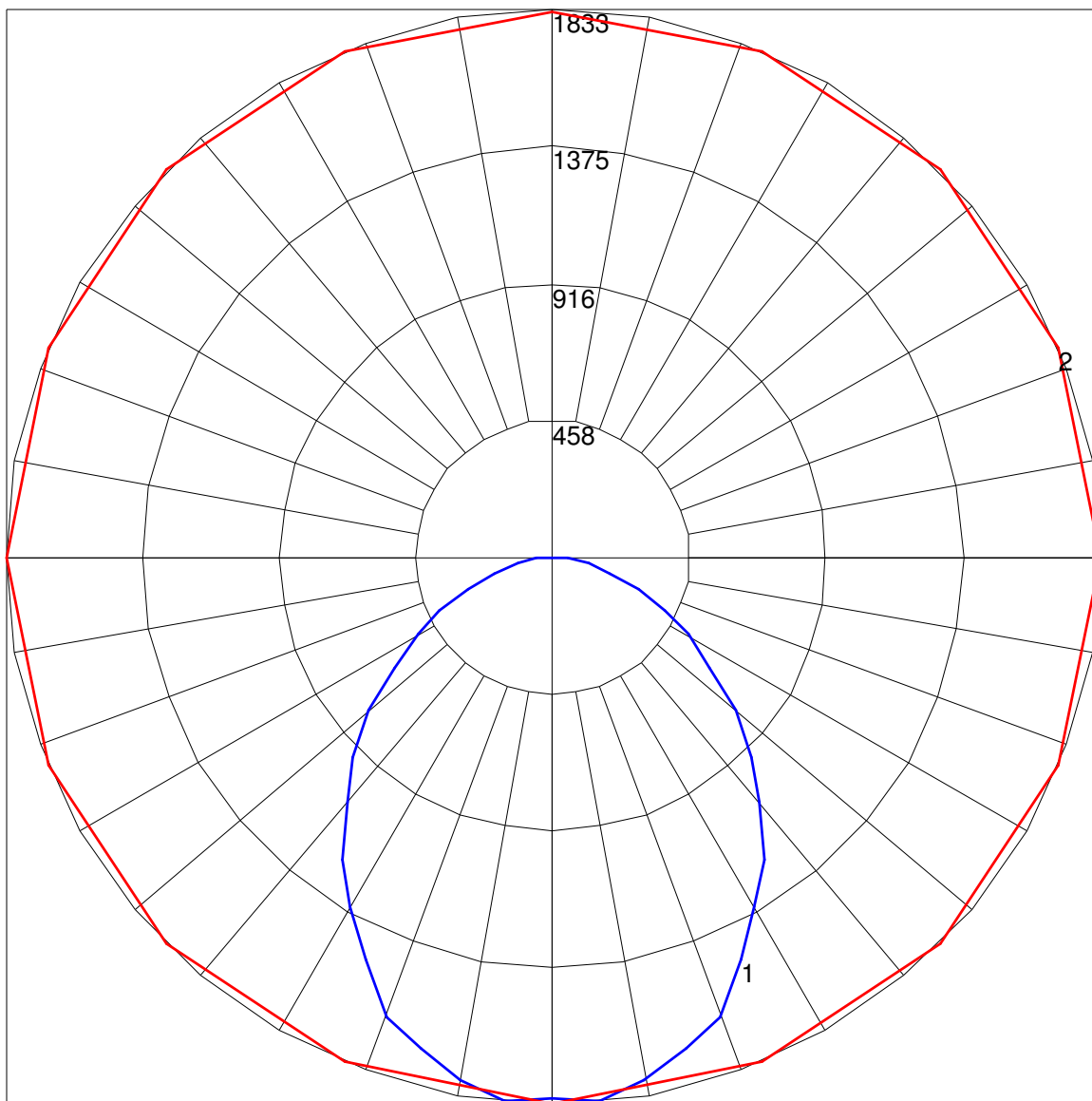
Reflectances

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	14.4	15.9	14.7	16.2	16.5	14.2	15.7	14.5	16.0	16.3
	3H	16.0	17.4	16.4	17.7	18.1	15.3	16.7	15.7	17.0	17.3
	4H	16.6	17.9	17.0	18.2	18.6	15.6	16.9	16.0	17.3	17.7
	6H	16.9	18.1	17.4	18.5	18.9	15.9	17.1	16.3	17.4	17.8
	8H	17.1	18.2	17.5	18.6	19.0	15.9	17.0	16.3	17.4	17.8
	12H	17.2	18.2	17.6	18.6	19.1	15.9	17.0	16.3	17.4	17.8
4H	2H	15.0	16.3	15.4	16.6	17.0	14.8	16.1	15.2	16.4	16.8
	3H	16.8	17.8	17.2	18.2	18.6	16.1	17.2	16.5	17.6	18.0
	4H	17.4	18.4	17.9	18.8	19.3	16.5	17.5	17.0	17.9	18.3
	6H	17.9	18.8	18.4	19.2	19.7	16.8	17.7	17.3	18.1	18.6
	8H	18.1	18.9	18.6	19.3	19.8	16.9	17.7	17.3	18.1	18.6
	12H	18.2	18.9	18.7	19.4	19.9	16.9	17.6	17.4	18.1	18.6
8H	4H	17.6	18.4	18.1	18.8	19.3	16.8	17.6	17.2	18.0	18.5
	6H	18.2	18.8	18.7	19.3	19.8	17.1	17.8	17.6	18.3	18.8
	8H	18.4	19.0	18.9	19.5	20.0	17.2	17.8	17.8	18.3	18.8
	12H	18.6	19.1	19.1	19.6	20.2	17.3	17.8	17.8	18.3	18.9
12H	4H	17.6	18.3	18.1	18.8	19.2	16.8	17.5	17.3	18.0	18.4
	6H	18.2	18.8	18.7	19.2	19.8	17.2	17.8	17.7	18.2	18.8
	8H	18.5	19.0	19.0	19.5	20.0	17.3	17.8	17.8	18.3	18.9

Maximum UGR = 20.2

POLAR GRAPH



Maximum Candela = 1832.77 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.)