



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AT3-24-L35-8TW-D-DALI-UNV 4000K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19260.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 3-JAN-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4-56 LED 22" ARRAYS 2x4' RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CONCAVE LX4 LENS IN DOOR

[LUMCAT] AT3-24-L35-8TW-D-DALI-UNV 4000k

[\_SEARCH\_SOURCETYPE]LED

[\_SEARCH\_APPLICATION]INDOOR,COMMERCIAL,DIRECT,OFFICE,ARCHITECTURAL

[\_SEARCH\_MOUNTING]RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3384
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	103
Total Luminaire Watts	32.82
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.12
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.76 ft
Luminous Width (90-270)	1.88 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1541	1723	1838
55	1314	1522	1620
65	1193	1457	1565
75	1014	1387	1387
85	899	641	599

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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>
<b>0</b>	1348.275	1348.275	1348.275	1348.275	1348.275
<b>5</b>	1341.144	1341.619	1341.619	1342.095	1342.570
<b>10</b>	1314.045	1315.472	1318.800	1323.078	1325.931
<b>15</b>	1265.553	1268.881	1276.488	1287.898	1293.127
<b>20</b>	1192.815	1199.946	1218.012	1239.881	1248.914
<b>25</b>	1094.879	1103.912	1130.535	1160.011	1173.323
<b>30</b>	991.714	1088.699	1028.321	1024.993	1099.633
<b>35</b>	887.123	903.287	949.403	994.567	1011.682
<b>40</b>	786.811	805.352	860.500	904.714	918.976
<b>45</b>	714.548	737.368	798.696	839.106	851.943
<b>50</b>	601.399	627.547	684.597	717.876	726.433
<b>55</b>	493.956	521.054	572.399	599.498	609.006
<b>60</b>	401.725	429.775	473.513	498.234	506.316
<b>65</b>	330.413	361.315	403.627	426.922	433.578
<b>70</b>	250.068	282.872	321.380	339.921	343.249
<b>75</b>	172.100	204.904	235.330	238.183	235.330
<b>80</b>	111.247	144.526	141.673	98.411	89.378
<b>85</b>	51.345	58.951	36.607	34.705	34.230
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	487.29	N.A.	14.40
0-30	1009.72	N.A.	29.80
0-40	1604.81	N.A.	47.40
0-60	2710.49	N.A.	80.10
0-80	3327.26	N.A.	98.30
0-90	3383.8	N.A.	100.00
10-90	3256.44	N.A.	96.20
20-40	1117.52	N.A.	33.00
20-50	1717.83	N.A.	50.80
40-70	1492.27	N.A.	44.10
60-80	616.77	N.A.	18.20
70-80	230.17	N.A.	6.80
80-90	56.54	N.A.	1.70
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	3383.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	127.36
10-20	359.94
20-30	522.42
30-40	595.09
40-50	600.31
50-60	505.37
60-70	386.60
70-80	230.17
80-90	56.54
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	104	104	104	104	102	102	102	102	97	97	97	93	93	93	89	89	89	87
1	95	91	87	84	93	89	86	83	85	83	80	82	80	78	79	77	75	74
2	87	80	74	69	84	78	73	68	75	70	67	72	68	65	69	66	64	62
3	79	70	63	58	77	69	62	57	66	61	56	64	59	55	62	58	54	52
4	73	62	55	49	71	61	54	49	59	53	48	57	52	47	55	51	47	45
5	67	56	48	43	65	55	48	42	53	47	42	51	46	41	50	45	41	39
6	62	51	43	37	60	50	42	37	48	42	37	47	41	36	45	40	36	34
7	58	46	38	33	56	45	38	33	44	37	33	43	37	32	41	36	32	31
8	54	42	35	30	52	41	34	30	40	34	29	39	33	29	38	33	29	27
9	50	39	32	27	49	38	31	27	37	31	27	36	31	26	35	30	26	25
10	47	36	29	24	46	35	29	24	34	28	24	34	28	24	33	28	24	22

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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	13.1	14.7	13.5	15.0	15.3	14.2	15.8	14.5	16.1	16.4
	3H	14.9	16.3	15.2	16.6	17.0	16.2	17.7	16.6	18.0	18.3
	4H	15.5	16.9	15.9	17.2	17.6	16.9	18.3	17.3	18.7	19.0
	6H	16.0	17.3	16.4	17.7	18.1	17.3	18.5	17.7	18.9	19.3
	8H	16.2	17.4	16.7	17.8	18.2	17.3	18.5	17.7	18.9	19.3
	12H	16.4	17.5	16.8	17.9	18.3	17.4	18.5	17.8	18.9	19.3

### UGR Viewed Endwise

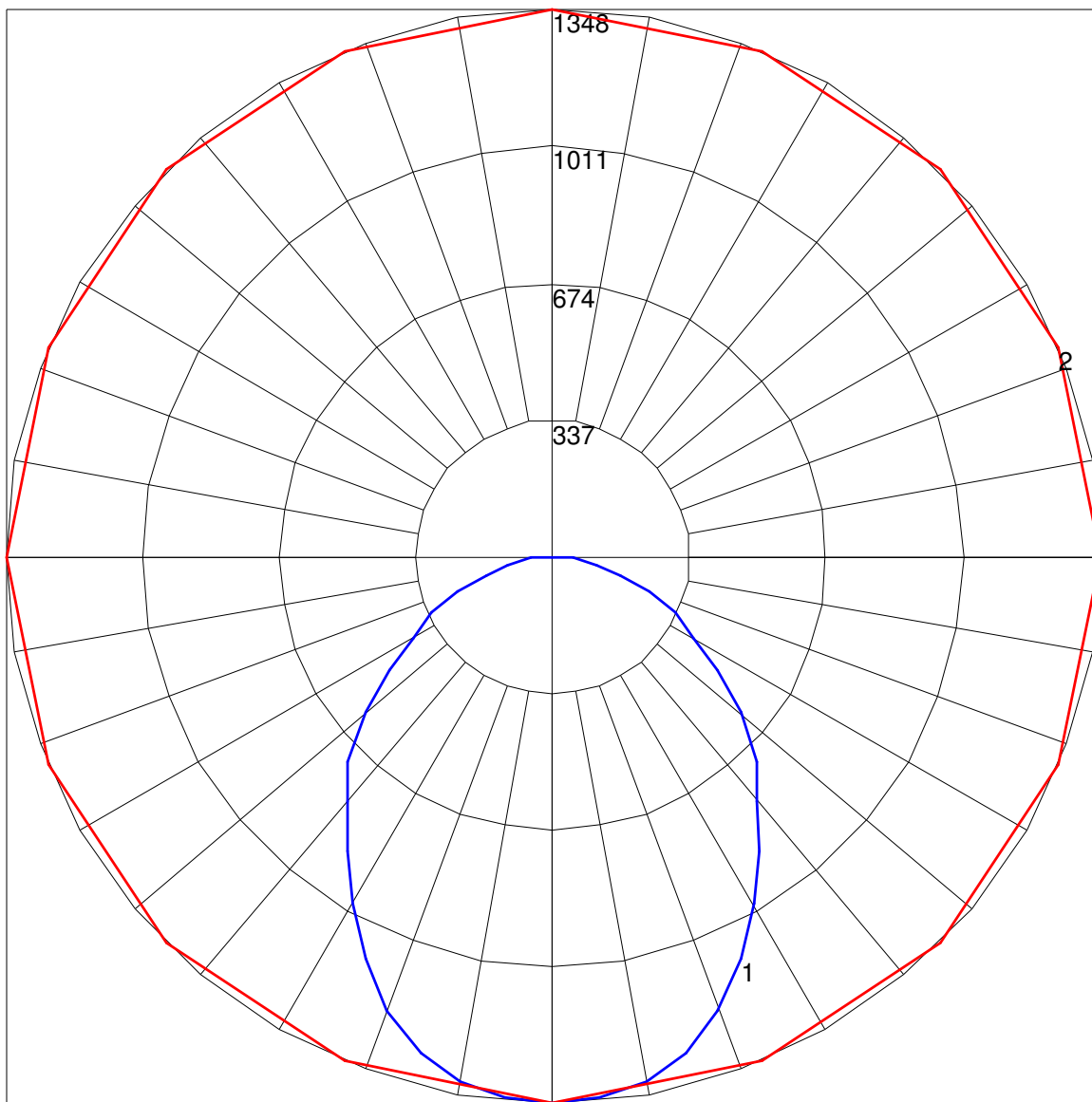
4H	2H	13.9	15.3	14.3	15.7	16.0	14.8	16.1	15.2	16.5	16.9
	3H	16.0	17.1	16.4	17.5	17.9	17.0	18.2	17.5	18.6	19.0
	4H	16.8	17.8	17.2	18.2	18.6	17.9	19.0	18.4	19.4	19.8
	6H	17.4	18.4	17.9	18.8	19.2	18.3	19.2	18.8	19.7	20.1
	8H	17.7	18.5	18.1	19.0	19.4	18.4	19.3	18.9	19.7	20.2
	12H	17.8	18.6	18.3	19.1	19.6	18.5	19.2	18.9	19.7	20.2

8H	4H	17.2	18.1	17.7	18.5	19.0	18.2	19.1	18.7	19.5	20.0
	6H	18.1	18.8	18.6	19.3	19.8	18.7	19.4	19.2	19.9	20.4
	8H	18.4	19.0	18.9	19.6	20.0	18.8	19.5	19.3	20.0	20.5
	12H	18.7	19.2	19.2	19.7	20.3	18.9	19.5	19.4	20.0	20.5

12H	4H	17.3	18.0	17.7	18.5	19.0	18.2	19.0	18.7	19.5	20.0
	6H	18.2	18.8	18.7	19.3	19.8	18.8	19.4	19.3	19.9	20.4
	8H	18.5	19.1	19.0	19.6	20.2	18.9	19.5	19.5	20.0	20.6

Maximum UGR = 20.6

POLAR GRAPH



Maximum Candela = 1348.275 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.)