



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : AXA-4-P14-835-S-LVRS-POE\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 18640.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 14-JUL-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2-56 LED 22" ARRAYS 4' SUSPEND BIDIRECT WHITE REFL LUMINAIRE

[MORE] 23 PER SIDE .125"X2"SLOTS w/WHT ACRYLIC OVERLAY & 24CELL

[MORE] 2" OC 1.25" DP WHT BLADE LVR w/OVERLAY

[LUMCAT] AXA-4-P14-835-S-LVRS-PoE

[LAMPCAT] HLM 80 CRI 3500K CCT

[\_SEARCH\_SOURCETYPE] LED

[\_SEARCH\_APPLICATION] Architectural, Classroom, Office, Direct-Indirect

[\_SEARCH\_MOUNTING] Suspended

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5414
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	47.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.10
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.20
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.84 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.26 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	15615	9892	9090
55	12707	6750	5601
65	9676	3967	2922
75	6172	1951	1506
85	3737	731	609

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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>	2531.611	2531.611	2531.611	2531.611	2531.611
<b>5</b>	2466.993	2465.840	2471.609	2479.686	2484.302
<b>10</b>	2390.837	2393.145	2408.146	2427.762	2439.300
<b>15</b>	2274.296	2282.373	2293.912	2321.605	2345.836
<b>20</b>	2130.061	2138.138	2148.523	2184.293	2222.371
<b>25</b>	1953.517	1954.671	1963.902	1996.211	2038.904
<b>30</b>	1825.437	1821.975	1825.437	1853.130	1902.747
<b>35</b>	1624.662	1620.046	1617.738	1638.508	1686.971
<b>40</b>	1452.734	1445.810	1433.118	1442.349	1488.504
<b>45</b>	1318.884	1303.883	1279.652	1272.729	1316.576
<b>50</b>	1090.416	1074.261	1040.799	1015.414	1041.953
<b>55</b>	894.256	872.333	826.177	778.868	785.792
<b>60</b>	684.250	661.173	608.094	552.708	546.939
<b>65</b>	523.861	498.476	443.090	394.627	384.242
<b>70</b>	356.549	333.471	296.547	267.700	257.315
<b>75</b>	223.853	212.314	190.390	180.005	178.851
<b>80</b>	143.081	133.850	118.850	117.696	117.696
<b>85</b>	64.617	57.694	58.848	61.156	62.309
<b>90</b>	5.769	9.231	16.154	18.462	21.924
<b>95</b>	0.000	6.923	12.693	17.308	18.462
<b>100</b>	2.308	9.231	13.847	18.462	20.770
<b>105</b>	2.308	9.231	13.847	20.770	20.770
<b>110</b>	5.769	12.693	18.462	21.924	23.078
<b>115</b>	6.923	12.693	20.770	21.924	23.078
<b>120</b>	9.231	16.154	21.924	26.539	26.539
<b>125</b>	9.231	17.308	25.385	26.539	26.539
<b>130</b>	12.693	20.770	25.385	26.539	26.539
<b>135</b>	16.154	21.924	28.847	28.847	30.001
<b>140</b>	21.924	26.539	30.001	33.462	33.462
<b>145</b>	23.078	26.539	30.001	33.462	30.001
<b>150</b>	26.539	28.847	32.309	34.616	33.462
<b>155</b>	26.539	30.001	32.309	34.616	33.462
<b>160</b>	28.847	31.155	34.616	35.770	34.616
<b>165</b>	31.155	36.924	39.232	41.540	39.232
<b>170</b>	33.462	33.462	33.462	38.078	34.616
<b>175</b>	34.616	34.616	34.616	34.616	32.309
<b>180</b>	32.309	32.309	32.309	32.309	32.309

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	882.01	N.A.	16.30
0-30	1799.45	N.A.	33.20
0-40	2825.09	N.A.	52.20
0-60	4547.08	N.A.	84.00
0-80	5209.51	N.A.	96.20
0-90	5280.37	N.A.	97.50
10-90	5045.82	N.A.	93.20
20-40	1943.09	N.A.	35.90
20-50	2924.06	N.A.	54.00
40-70	2168.52	N.A.	40.10
60-80	662.43	N.A.	12.20
70-80	215.90	N.A.	4.00
80-90	70.86	N.A.	1.30
90-110	29.14	N.A.	0.50
90-120	47.16	N.A.	0.90
90-130	66.71	N.A.	1.20
90-150	105.45	N.A.	1.90
90-180	133.77	N.A.	2.50
110-180	104.63	N.A.	1.90
0-180	5414.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	234.56
10-20	647.45
20-30	917.45
30-40	1025.64
40-50	980.98
50-60	741.01
60-70	446.53
70-80	215.90
80-90	70.86
90-100	13.85
100-110	15.29
110-120	18.02
120-130	19.56
130-140	20.05
140-150	18.69
150-160	14.82
160-170	10.23
170-180	3.27

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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	235	235	235	235	229	229	229	229	218	218	218	208	208	208	198	198	198	194
1	217	209	201	194	211	204	197	191	195	189	184	186	182	177	178	175	171	167
2	200	185	173	162	194	181	170	160	173	164	156	166	158	152	159	153	148	143
3	184	165	150	138	178	161	147	137	155	143	134	149	139	131	143	135	128	124
4	169	147	131	119	164	144	130	118	139	126	116	134	123	114	129	120	112	108
5	156	133	116	104	152	130	115	103	126	112	102	121	110	100	117	107	99	95
6	145	120	104	92	141	118	103	91	114	101	90	111	98	89	107	96	88	84
7	135	110	93	82	131	108	93	82	105	91	81	101	89	80	98	87	79	75
8	126	101	85	74	123	99	84	73	96	83	73	93	81	72	91	80	71	68
9	118	93	77	67	115	91	77	67	89	75	66	87	74	65	84	73	65	61
10	111	86	71	61	108	85	70	61	83	69	60	80	68	60	78	67	59	56

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**UGR TABLE - CORRECTED**

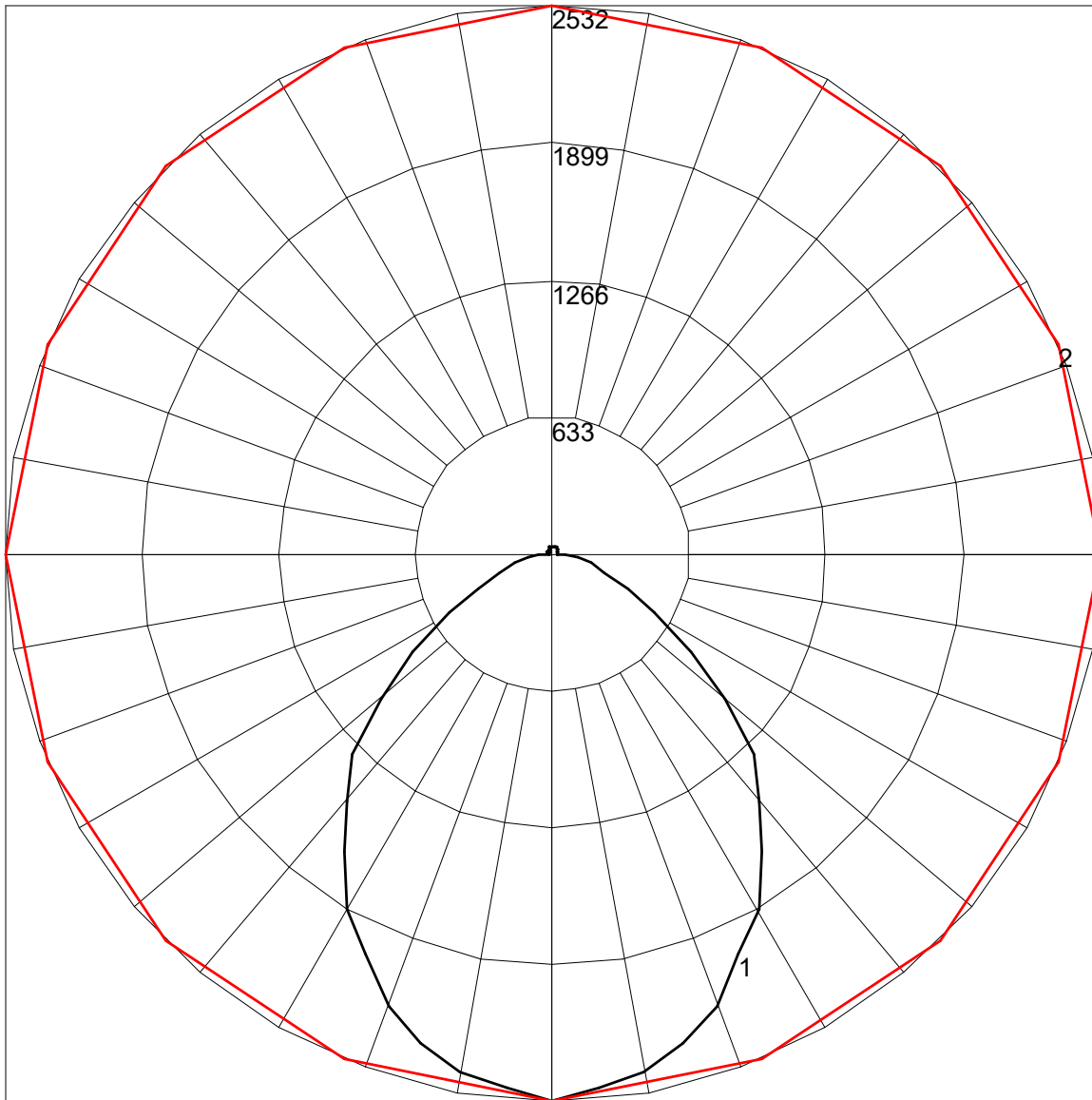
Reflectances

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	15.3	16.8	15.7	17.1	17.5	15.7	17.1	16.1	17.5	17.9
	3H	16.3	17.6	16.7	18.0	18.4	16.7	18.0	17.1	18.4	18.8
	4H	16.5	17.7	16.9	18.1	18.6	17.0	18.2	17.5	18.6	19.1
	6H	16.6	17.8	17.1	18.2	18.7	17.3	18.4	17.8	18.9	19.3
	8H	16.7	17.7	17.2	18.2	18.7	17.4	18.5	17.9	18.9	19.4
	12H	16.7	17.7	17.2	18.1	18.6	17.5	18.5	18.0	18.9	19.4
4H	2H	15.6	16.8	16.1	17.2	17.7	15.9	17.2	16.4	17.6	18.0
	3H	16.7	17.7	17.2	18.2	18.7	17.1	18.1	17.5	18.5	19.0
	4H	17.0	17.9	17.5	18.4	18.9	17.5	18.4	18.0	18.9	19.4
	6H	17.3	18.0	17.8	18.5	19.1	17.9	18.6	18.4	19.1	19.7
	8H	17.3	18.0	17.8	18.5	19.1	18.0	18.7	18.5	19.2	19.8
	12H	17.3	18.0	17.9	18.5	19.1	18.1	18.7	18.6	19.3	19.8
8H	4H	17.1	17.9	17.6	18.4	18.9	17.5	18.3	18.1	18.8	19.3
	6H	17.4	18.0	17.9	18.5	19.1	18.0	18.6	18.5	19.1	19.7
	8H	17.5	18.0	18.0	18.6	19.1	18.1	18.7	18.7	19.2	19.8
	12H	17.5	18.0	18.1	18.5	19.2	18.3	18.8	18.8	19.3	19.9
12H	4H	17.1	17.8	17.7	18.3	18.8	17.5	18.2	18.1	18.7	19.2
	6H	17.4	17.9	18.0	18.5	19.1	18.0	18.5	18.5	19.0	19.6
	8H	17.5	18.0	18.1	18.5	19.1	18.1	18.6	18.7	19.2	19.8

Maximum UGR = 19.9

POLAR GRAPH



Maximum Candela = 2531.611 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (90 - 270)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)