



IES INDOOR REPORT

PHOTOMETRIC FILENAME : AXA-4-L14-840-LVRX-DIM-UNV_.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] 20-NOV-2019
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-72 LED 22"ARRAYS 4'SUSPEND BIDIRECT
 [MORE] WHITE REFL LUMINAIRE w/WHT ACRYLIC OVERLAY & 24CELL
 [LUMCAT] AXA-4-L14-840-LVRx-DIM-UNV
 [LAMPCAT] HLM 80 CRI 4000K 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	5600
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	51
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	16151	10232	9403
55	13144	6982	5793
65	10008	4103	3022
75	6384	2018	1558
85	3866	756	630

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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	2618.585	2618.585	2618.585	2618.585	2618.585
5	2551.748	2550.554	2556.522	2564.877	2569.651
10	2472.976	2475.363	2490.878	2511.168	2523.103
15	2352.430	2360.785	2372.720	2401.364	2426.428
20	2203.240	2211.594	2222.336	2259.335	2298.721
25	2020.631	2021.825	2031.373	2064.791	2108.952
30	1888.150	1884.570	1888.150	1916.795	1968.116
35	1680.478	1675.704	1673.316	1694.800	1744.928
40	1502.643	1495.482	1482.353	1491.901	1539.642
45	1364.195	1348.679	1323.615	1316.454	1361.807
50	1127.877	1111.168	1076.556	1050.299	1077.749
55	924.979	902.302	854.561	805.627	812.788
60	707.758	683.888	628.986	571.697	565.729
65	541.859	515.601	458.312	408.184	397.443
70	368.798	344.928	306.735	276.897	266.155
75	231.543	219.608	196.931	186.189	184.996
80	147.997	138.448	122.933	121.739	121.739
85	66.837	59.676	60.870	63.257	64.450
90	5.968	9.548	16.709	19.096	22.677
95	0.000	7.161	13.129	17.903	19.096
100	2.387	9.548	14.322	19.096	21.483
105	2.387	9.548	14.322	21.483	21.483
110	5.968	13.129	19.096	22.677	23.870
115	7.161	13.129	21.483	22.677	23.870
120	9.548	16.709	22.677	27.451	27.451
125	9.548	17.903	26.257	27.451	27.451
130	13.129	21.483	26.257	27.451	27.451
135	16.709	22.677	29.838	29.838	31.032
140	22.677	27.451	31.032	34.612	34.612
145	23.870	27.451	31.032	34.612	31.032
150	27.451	29.838	33.419	35.806	34.612
155	27.451	31.032	33.419	35.806	34.612
160	29.838	32.225	35.806	36.999	35.806
165	32.225	38.193	40.580	42.967	40.580
170	34.612	34.612	34.612	39.386	35.806
175	35.806	35.806	35.806	35.806	33.419
180	33.419	33.419	33.419	33.419	33.419

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	912.31	N.A.	16.30
0-30	1861.27	N.A.	33.20
0-40	2922.15	N.A.	52.20
0-60	4703.3	N.A.	84.00
0-80	5388.49	N.A.	96.20
0-90	5461.78	N.A.	97.50
10-90	5219.17	N.A.	93.20
20-40	2009.84	N.A.	35.90
20-50	3024.52	N.A.	54.00
40-70	2243.02	N.A.	40.10
60-80	685.19	N.A.	12.20
70-80	223.32	N.A.	4.00
80-90	73.29	N.A.	1.30
90-110	30.14	N.A.	0.50
90-120	48.78	N.A.	0.90
90-130	69.00	N.A.	1.20
90-150	109.08	N.A.	1.90
90-180	138.36	N.A.	2.50
110-180	108.22	N.A.	1.90
0-180	5600.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	242.61
10-20	669.69
20-30	948.97
30-40	1060.88
40-50	1014.68
50-60	766.47
60-70	461.87
70-80	223.32
80-90	73.29
90-100	14.33
100-110	15.81
110-120	18.64
120-130	20.23
130-140	20.74
140-150	19.33
150-160	15.33
160-170	10.58
170-180	3.38

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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	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	105	101	98	107	103	99	96	98	95	93	94	91	89	90	88	86	84
2	101	93	87	82	98	91	85	81	87	83	78	84	80	76	80	77	74	72
3	92	83	75	70	90	81	74	69	78	72	67	75	70	66	72	68	64	62
4	85	74	66	60	83	73	65	59	70	64	58	67	62	57	65	60	56	54
5	79	67	59	52	77	66	58	52	63	56	51	61	55	50	59	54	50	48
6	73	61	52	46	71	60	52	46	58	51	45	56	50	45	54	49	44	42
7	68	55	47	41	66	54	47	41	53	46	41	51	45	40	50	44	40	38
8	64	51	43	37	62	50	42	37	48	42	37	47	41	36	46	40	36	34
9	59	47	39	34	58	46	39	34	45	38	33	44	37	33	42	37	33	31
10	56	43	36	31	55	43	36	31	42	35	30	41	34	30	39	34	30	28

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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	19.2	20.7	19.6	21.1	21.4	18.2	19.7	18.6	20.0	20.4
	3H	20.5	21.8	20.9	22.2	22.6	19.2	20.5	19.6	20.9	21.3
	4H	20.9	22.1	21.3	22.5	22.9	19.5	20.8	20.0	21.2	21.6
	6H	21.1	22.3	21.6	22.7	23.2	19.8	21.0	20.3	21.4	21.8
	8H	21.2	22.3	21.7	22.8	23.2	19.9	21.0	20.4	21.5	21.9
	12H	21.3	22.3	21.8	22.8	23.2	20.0	21.1	20.5	21.5	22.0

UGR Viewed Endwise

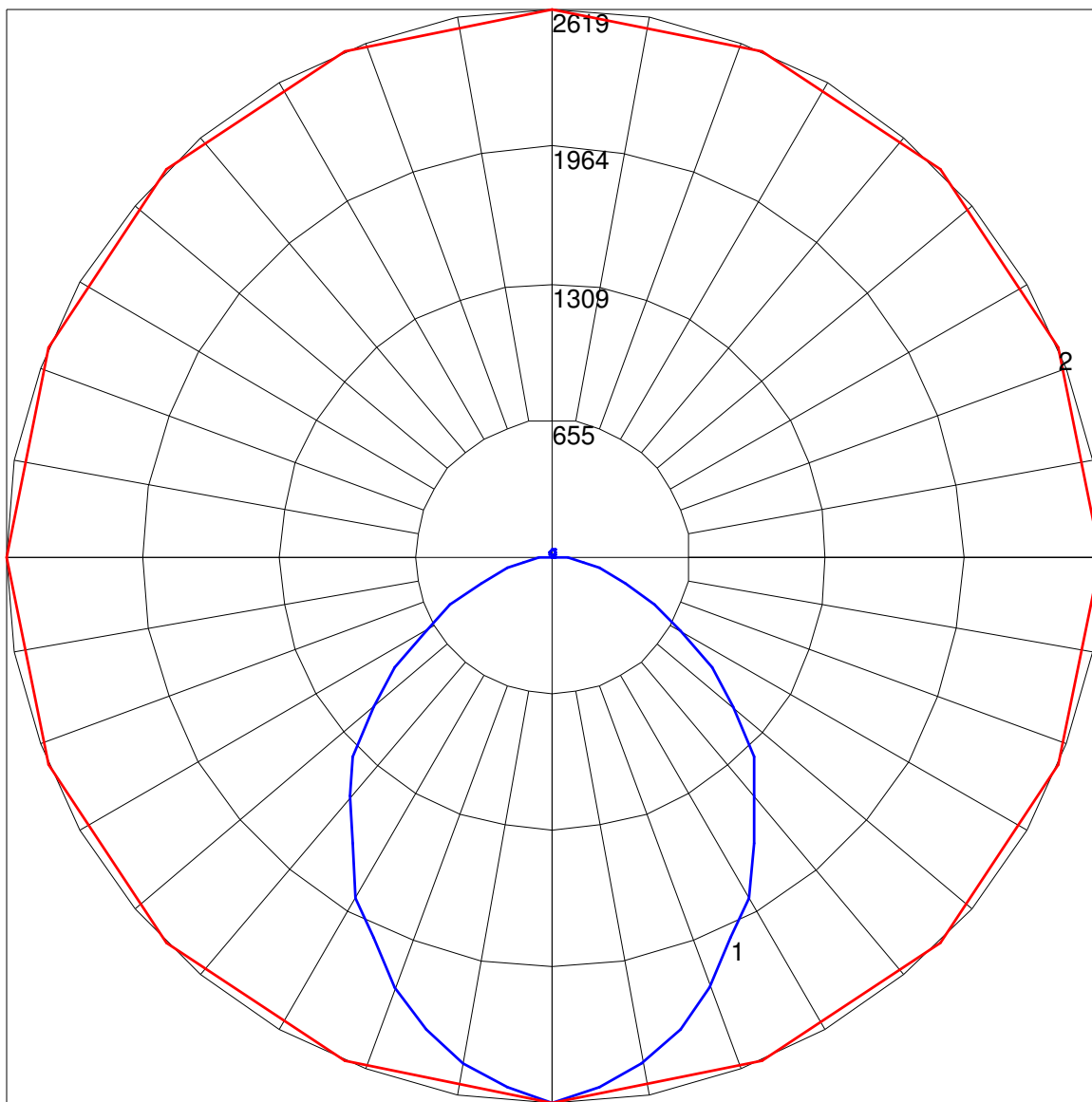
4H	2H	19.4	20.6	19.8	21.0	21.5	18.5	19.7	18.9	20.1	20.5
	3H	20.8	21.8	21.2	22.2	22.7	19.6	20.6	20.0	21.1	21.5
	4H	21.2	22.1	21.7	22.6	23.1	20.0	20.9	20.5	21.4	21.9
	6H	21.6	22.4	22.1	22.9	23.4	20.4	21.2	20.9	21.7	22.2
	8H	21.7	22.5	22.2	22.9	23.5	20.5	21.3	21.0	21.8	22.3
	12H	21.8	22.5	22.3	23.0	23.5	20.6	21.3	21.1	21.8	22.3

8H	4H	21.2	22.0	21.7	22.5	23.0	20.1	20.8	20.6	21.3	21.8
	6H	21.6	22.3	22.2	22.8	23.3	20.5	21.1	21.0	21.6	22.2
	8H	21.8	22.4	22.3	22.9	23.4	20.7	21.2	21.2	21.8	22.3
	12H	21.9	22.4	22.4	22.9	23.5	20.8	21.3	21.3	21.8	22.4

12H	4H	21.2	21.9	21.7	22.4	22.9	20.1	20.7	20.6	21.2	21.8
	6H	21.6	22.2	22.2	22.7	23.3	20.5	21.0	21.0	21.5	22.1
	8H	21.8	22.3	22.3	22.8	23.4	20.7	21.2	21.2	21.7	22.3

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 2618.585 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.)