



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L110-935-AF-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20802.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 2023-07-24  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2x4' RECESSED LED LUMINAIRE  
 [LUMINAIRE] WHITE REFLECTOR w/FROSTED CENTER LENS  
 [LUMINAIRE] 0-10V DIMMING DRIVER  
 [LUMCAT] LT-24-L110-935-AF-DIM-UNV  
 [LAMPCAT] 22 INCH LED ARRAYS  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Classroom, Office, Direct  
 [\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9184
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	81.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.93 ft
Luminous Width (90-270)	1.91 ft
Luminous Height	0.00 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3794	4217	4537
55	3452	4091	4574
65	2948	4066	4789
75	2173	4270	5357
85	832	3429	3151

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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>	3190.295	3190.295	3190.295	3190.295	3190.295
<b>5</b>	3220.883	3182.648	3162.766	3155.119	3155.119
<b>10</b>	3161.237	3121.473	3110.767	3112.296	3107.708
<b>15</b>	3066.415	3038.886	3034.298	3045.004	3051.121
<b>20</b>	2942.535	2918.065	2928.770	2957.829	2963.946
<b>25</b>	2780.420	2759.009	2797.243	2838.537	2847.713
<b>30</b>	2593.835	2589.247	2641.246	2696.304	2717.715
<b>35</b>	2375.133	2393.486	2469.955	2540.307	2566.306
<b>40</b>	2144.196	2177.843	2295.605	2376.663	2407.250
<b>45</b>	1867.378	1925.494	2075.374	2209.960	2232.901
<b>50</b>	1636.441	1708.322	1855.143	1986.670	2024.904
<b>55</b>	1377.975	1449.856	1633.382	1774.085	1826.085
<b>60</b>	1124.097	1203.625	1399.386	1569.148	1618.088
<b>65</b>	867.161	977.276	1195.978	1361.152	1408.563
<b>70</b>	627.047	750.928	977.276	1153.156	1191.390
<b>75</b>	391.522	542.931	769.280	926.807	965.041
<b>80</b>	188.114	351.758	558.225	631.636	610.224
<b>85</b>	50.470	174.350	207.996	185.055	191.173
<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	1159.93	N.A.	12.60
0-30	2451.56	N.A.	26.70
0-40	3997.18	N.A.	43.50
0-60	7038.09	N.A.	76.60
0-80	8957.96	N.A.	97.50
0-90	9183.66	N.A.	100.00
10-90	8882.52	N.A.	96.70
20-40	2837.25	N.A.	30.90
20-50	4432.24	N.A.	48.30
40-70	4197.47	N.A.	45.70
60-80	1919.87	N.A.	20.90
70-80	763.31	N.A.	8.30
80-90	225.70	N.A.	2.50
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	9183.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	301.14
10-20	858.79
20-30	1291.63
30-40	1545.62
40-50	1594.99
50-60	1445.92
60-70	1156.56
70-80	763.31
80-90	225.70
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	82	77	95	88	81	76	84	79	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	62	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

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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	16.0	17.7	16.4	18.0	18.3	17.7	19.4	18.1	19.7	20.0
	3H	17.6	19.1	18.0	19.4	19.8	20.1	21.6	20.5	21.9	22.3
	4H	18.1	19.5	18.5	19.9	20.3	21.1	22.6	21.5	22.9	23.3
	6H	18.4	19.8	18.8	20.1	20.5	22.0	23.3	22.4	23.7	24.1
	8H	18.5	19.8	18.9	20.2	20.6	22.2	23.5	22.6	23.9	24.3
	12H	18.5	19.8	19.0	20.1	20.6	22.3	23.6	22.8	23.9	24.4

UGR Viewed Endwise

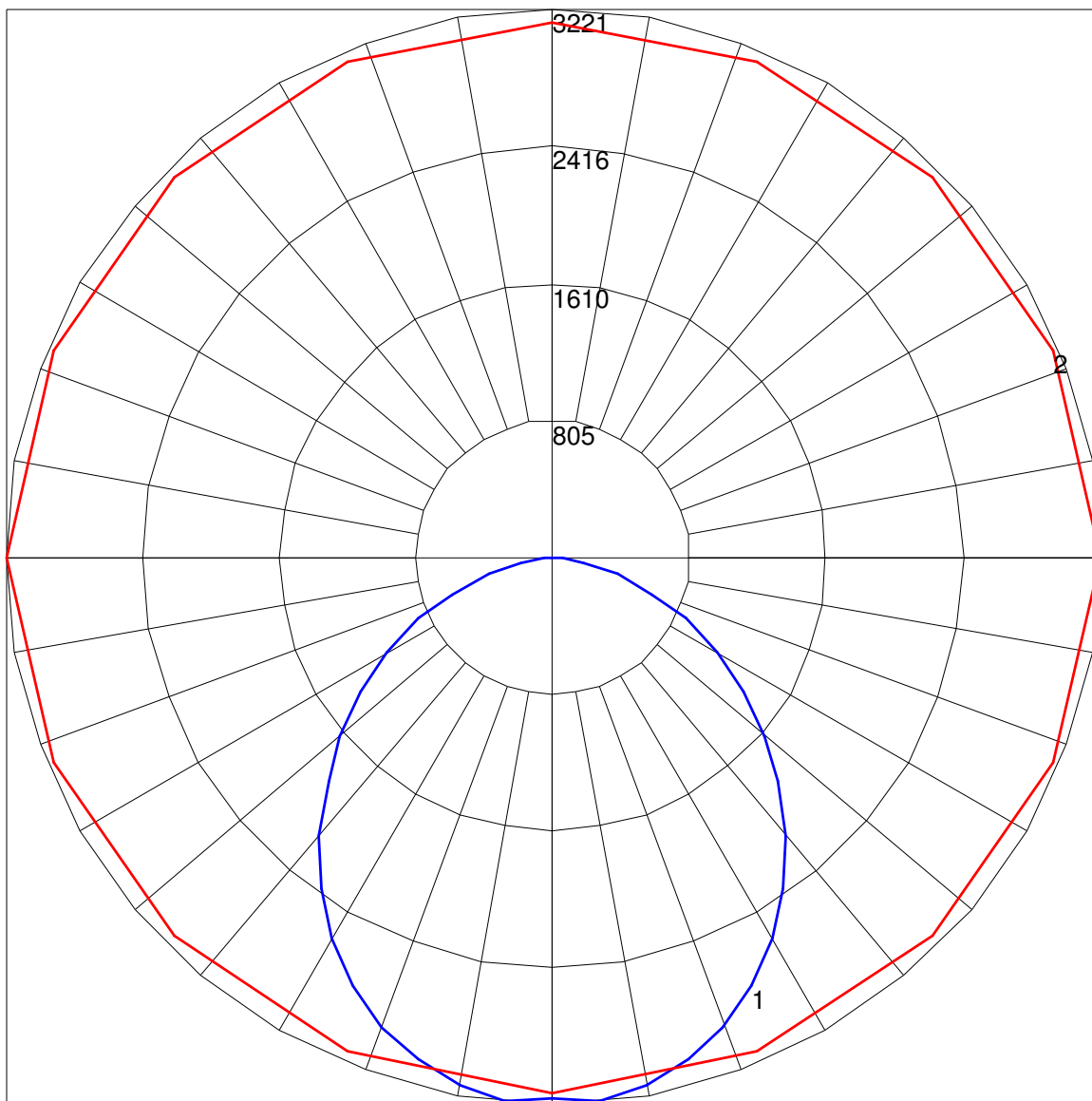
4H	2H	17.0	18.4	17.4	18.7	19.1	18.3	19.7	18.7	20.1	20.4
	3H	18.8	20.0	19.2	20.4	20.8	20.9	22.1	21.3	22.5	22.9
	4H	19.5	20.6	19.9	21.0	21.5	22.2	23.3	22.6	23.7	24.1
	6H	20.0	20.9	20.4	21.4	21.8	23.2	24.2	23.7	24.6	25.0
	8H	20.1	21.0	20.6	21.4	21.9	23.5	24.4	24.0	24.8	25.3
	12H	20.2	21.0	20.6	21.4	21.9	23.7	24.5	24.1	24.9	25.4

8H	4H	20.3	21.2	20.7	21.6	22.1	22.5	23.4	23.0	23.8	24.3
	6H	20.9	21.7	21.4	22.2	22.6	23.7	24.4	24.2	24.9	25.4
	8H	21.2	21.8	21.7	22.3	22.8	24.1	24.8	24.6	25.3	25.8
	12H	21.3	21.9	21.8	22.4	22.9	24.3	24.9	24.8	25.4	26.0

12H	4H	20.4	21.2	20.9	21.7	22.2	22.5	23.3	23.0	23.8	24.3
	6H	21.2	21.9	21.7	22.3	22.9	23.8	24.4	24.3	24.9	25.4
	8H	21.5	22.1	22.0	22.6	23.1	24.2	24.8	24.7	25.3	25.9

Maximum UGR = 26.0

POLAR GRAPH



Maximum Candela = 3220.883 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.)