



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L82-835-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-L82-835-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	8214
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	64.3
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	3394	3772	4058
55	3087	3659	4091
65	2637	3636	4283
75	1944	3819	4791
85	744	3067	2819

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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>	2853.356	2853.356	2853.356	2853.356	2853.356
<b>5</b>	2880.713	2846.517	2828.734	2821.895	2821.895
<b>10</b>	2827.367	2791.802	2782.227	2783.595	2779.491
<b>15</b>	2742.559	2717.938	2713.834	2723.409	2728.881
<b>20</b>	2631.763	2609.877	2619.452	2645.441	2650.913
<b>25</b>	2486.769	2467.619	2501.816	2538.748	2546.955
<b>30</b>	2319.890	2315.787	2362.294	2411.537	2430.687
<b>35</b>	2124.287	2140.701	2209.094	2272.015	2295.269
<b>40</b>	1917.740	1947.833	2053.158	2125.654	2153.012
<b>45</b>	1670.157	1722.136	1856.186	1976.558	1997.076
<b>50</b>	1463.610	1527.900	1659.214	1776.850	1811.047
<b>55</b>	1232.442	1296.731	1460.874	1586.718	1633.225
<b>60</b>	1005.377	1076.506	1251.592	1403.424	1447.196
<b>65</b>	775.577	874.063	1069.666	1217.395	1259.799
<b>70</b>	560.823	671.619	874.063	1031.366	1065.563
<b>75</b>	350.172	485.590	688.034	828.923	863.120
<b>80</b>	168.247	314.608	499.269	564.926	545.776
<b>85</b>	45.139	155.936	186.029	165.511	170.982
<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	1037.42	N.A.	12.60
0-30	2192.64	N.A.	26.70
0-40	3575.02	N.A.	43.50
0-60	6294.77	N.A.	76.60
0-80	8011.88	N.A.	97.50
0-90	8213.74	N.A.	100.00
10-90	7944.4	N.A.	96.70
20-40	2537.6	N.A.	30.90
20-50	3964.14	N.A.	48.30
40-70	3754.16	N.A.	45.70
60-80	1717.11	N.A.	20.90
70-80	682.69	N.A.	8.30
80-90	201.86	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	8213.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	269.34
10-20	768.09
20-30	1155.21
30-40	1382.39
40-50	1426.54
50-60	1293.21
60-70	1034.42
70-80	682.69
80-90	201.86
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**

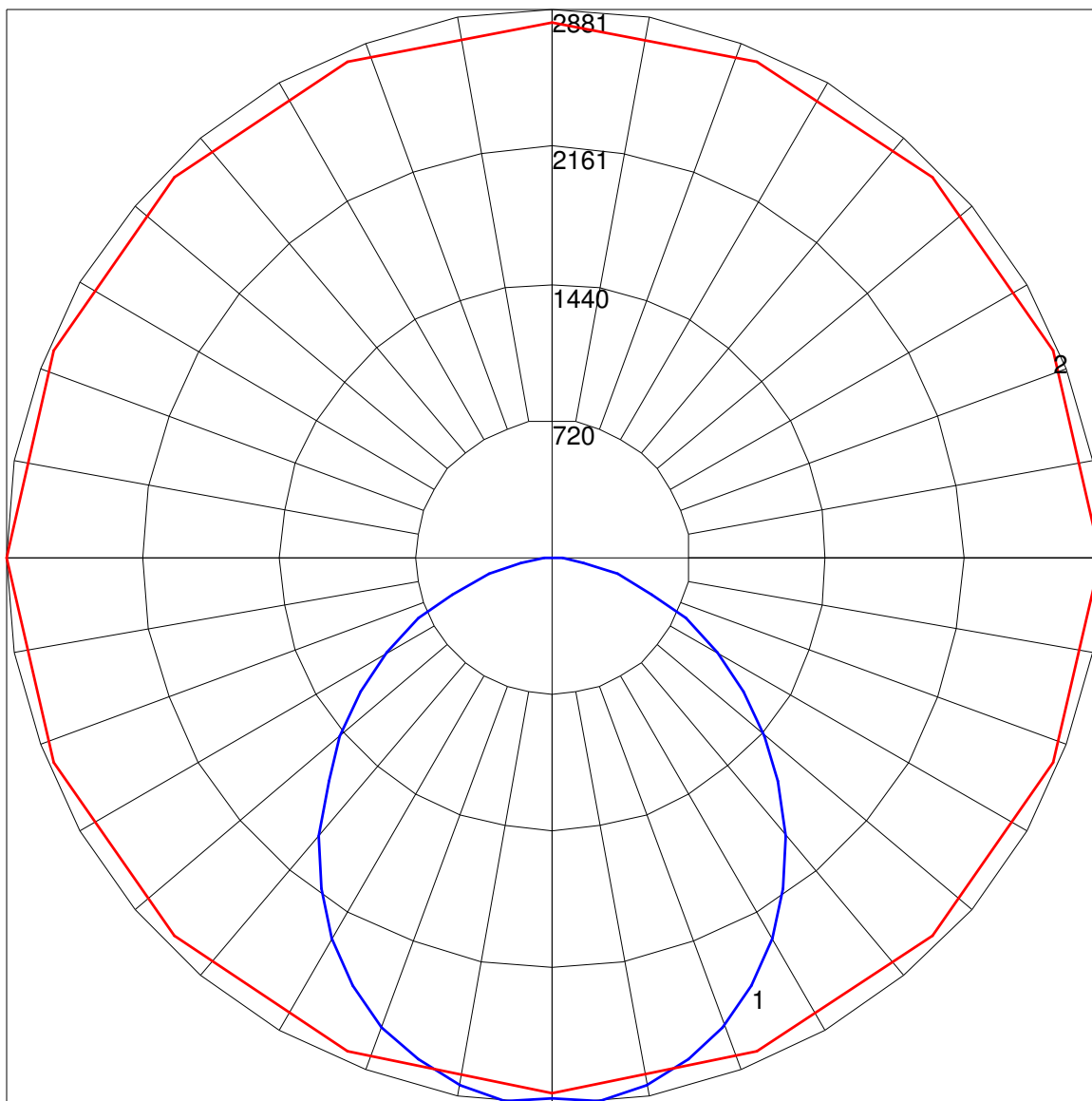
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	15.6	17.3	16.0	17.6	17.9	17.3	19.0	17.7	19.3	19.6
	3H	17.2	18.7	17.6	19.0	19.4	19.7	21.2	20.1	21.5	21.9
	4H	17.7	19.1	18.1	19.5	19.9	20.7	22.2	21.1	22.5	22.9
	6H	18.0	19.4	18.4	19.7	20.1	21.6	22.9	22.0	23.3	23.7
	8H	18.1	19.4	18.5	19.8	20.2	21.8	23.1	22.2	23.5	23.9
	12H	18.1	19.4	18.6	19.7	20.2	21.9	23.2	22.4	23.5	24.0
4H	2H	16.6	18.0	17.0	18.3	18.7	17.9	19.3	18.3	19.7	20.0
	3H	18.4	19.6	18.8	20.0	20.4	20.5	21.7	20.9	22.1	22.5
	4H	19.1	20.2	19.5	20.6	21.1	21.8	22.9	22.2	23.3	23.7
	6H	19.6	20.5	20.0	21.0	21.4	22.8	23.8	23.3	24.2	24.6
	8H	19.7	20.6	20.2	21.0	21.5	23.1	24.0	23.6	24.4	24.9
	12H	19.8	20.6	20.2	21.0	21.5	23.3	24.1	23.7	24.5	25.0
8H	4H	19.9	20.8	20.3	21.2	21.7	22.1	23.0	22.6	23.4	23.9
	6H	20.5	21.3	21.0	21.8	22.2	23.3	24.0	23.8	24.5	25.0
	8H	20.8	21.4	21.3	21.9	22.4	23.7	24.4	24.2	24.9	25.4
	12H	20.9	21.5	21.4	22.0	22.5	23.9	24.5	24.4	25.0	25.6
12H	4H	20.0	20.8	20.5	21.3	21.8	22.1	22.9	22.6	23.4	23.9
	6H	20.8	21.5	21.3	21.9	22.5	23.4	24.0	23.9	24.5	25.0
	8H	21.1	21.7	21.6	22.2	22.7	23.8	24.4	24.3	24.9	25.5

Maximum UGR = 25.6

POLAR GRAPH



Maximum Candela = 2880.713 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.)