



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L40-830-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-L40-830-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	3932
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	32
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	1625	1806	1943
55	1478	1752	1959
65	1262	1741	2050
75	931	1828	2294
85	356	1468	1349

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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>	1365.984	1365.984	1365.984	1365.984	1365.984
<b>5</b>	1379.081	1362.710	1354.197	1350.923	1350.923
<b>10</b>	1353.542	1336.517	1331.933	1332.588	1330.623
<b>15</b>	1312.943	1301.156	1299.191	1303.775	1306.394
<b>20</b>	1259.901	1249.424	1254.008	1266.449	1269.069
<b>25</b>	1190.489	1181.321	1197.692	1215.372	1219.301
<b>30</b>	1110.599	1108.634	1130.899	1154.473	1163.640
<b>35</b>	1016.958	1024.816	1057.557	1087.680	1098.812
<b>40</b>	918.078	932.484	982.906	1017.612	1030.709
<b>45</b>	799.553	824.436	888.610	946.236	956.058
<b>50</b>	700.673	731.450	794.314	850.630	867.001
<b>55</b>	590.006	620.783	699.363	759.608	781.872
<b>60</b>	481.303	515.355	599.173	671.860	692.815
<b>65</b>	371.291	418.439	512.080	582.803	603.102
<b>70</b>	268.482	321.524	418.439	493.745	510.116
<b>75</b>	167.638	232.466	329.382	396.830	413.200
<b>80</b>	80.545	150.612	239.015	270.447	261.279
<b>85</b>	21.610	74.651	89.057	79.235	81.854
<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	496.64	N.A.	12.60
0-30	1049.68	N.A.	26.70
0-40	1711.47	N.A.	43.50
0-60	3013.49	N.A.	76.60
0-80	3835.52	N.A.	97.50
0-90	3932.16	N.A.	100.00
10-90	3803.22	N.A.	96.70
20-40	1214.82	N.A.	30.90
20-50	1897.75	N.A.	48.30
40-70	1797.23	N.A.	45.70
60-80	822.03	N.A.	20.90
70-80	326.82	N.A.	8.30
80-90	96.64	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	3932.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	128.94
10-20	367.71
20-30	553.03
30-40	661.79
40-50	682.92
50-60	619.10
60-70	495.20
70-80	326.82
80-90	96.64
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**

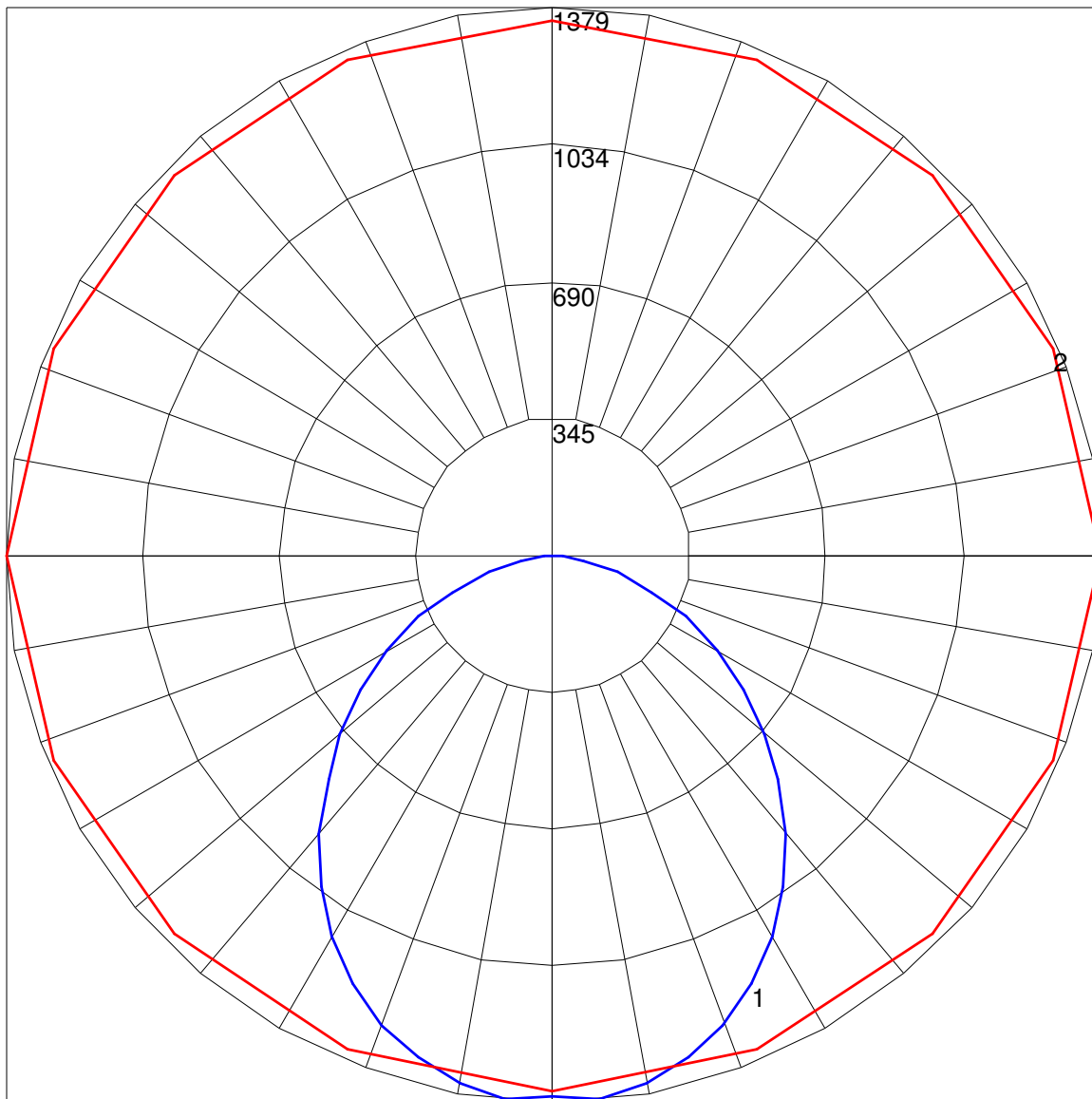
Reflectances

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	13.1	14.8	13.5	15.1	15.4	14.8	16.5	15.2	16.8	17.1
	3H	14.7	16.2	15.1	16.5	16.9	17.2	18.7	17.6	19.0	19.4
	4H	15.2	16.6	15.6	17.0	17.4	18.2	19.7	18.6	20.0	20.4
	6H	15.5	16.9	15.9	17.2	17.6	19.1	20.4	19.5	20.8	21.1
	8H	15.6	16.9	16.0	17.3	17.7	19.3	20.6	19.7	21.0	21.4
	12H	15.6	16.9	16.1	17.2	17.7	19.4	20.7	19.9	21.0	21.5
4H	2H	14.1	15.5	14.5	15.8	16.2	15.4	16.8	15.8	17.2	17.5
	3H	15.9	17.1	16.3	17.5	17.9	18.0	19.2	18.4	19.6	20.0
	4H	16.6	17.7	17.0	18.1	18.6	19.3	20.4	19.7	20.8	21.2
	6H	17.1	18.0	17.5	18.5	18.9	20.3	21.3	20.8	21.7	22.1
	8H	17.2	18.1	17.7	18.5	19.0	20.6	21.5	21.1	21.9	22.4
	12H	17.3	18.1	17.7	18.5	19.0	20.8	21.6	21.2	22.0	22.5
8H	4H	17.4	18.3	17.8	18.7	19.2	19.6	20.5	20.1	20.9	21.4
	6H	18.0	18.8	18.5	19.3	19.7	20.8	21.5	21.3	22.0	22.5
	8H	18.3	18.9	18.8	19.4	19.9	21.2	21.9	21.7	22.4	22.9
	12H	18.4	19.0	18.9	19.5	20.0	21.4	22.0	21.9	22.5	23.1
12H	4H	17.5	18.3	18.0	18.8	19.3	19.6	20.4	20.1	20.9	21.4
	6H	18.3	19.0	18.8	19.4	20.0	20.9	21.5	21.4	22.0	22.5
	8H	18.6	19.2	19.1	19.7	20.2	21.3	21.9	21.8	22.4	23.0

Maximum UGR = 23.1

POLAR GRAPH



Maximum Candela = 1379.081 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.)