



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L52-935-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-L52-935-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	4318
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	37.2
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	1784	1982	2133
55	1623	1924	2150
65	1386	1911	2251
75	1022	2008	2519
85	391	1612	1482

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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>	1499.856	1499.856	1499.856	1499.856	1499.856
<b>5</b>	1514.237	1496.261	1486.914	1483.319	1483.319
<b>10</b>	1486.195	1467.501	1462.468	1463.187	1461.030
<b>15</b>	1441.617	1428.674	1426.517	1431.550	1434.426
<b>20</b>	1383.377	1371.873	1376.906	1390.567	1393.443
<b>25</b>	1307.162	1297.095	1315.071	1334.484	1338.798
<b>30</b>	1219.442	1217.285	1241.732	1267.616	1277.682
<b>35</b>	1116.624	1125.252	1161.202	1194.277	1206.500
<b>40</b>	1008.053	1023.871	1079.235	1117.343	1131.723
<b>45</b>	877.912	905.235	975.698	1038.971	1049.756
<b>50</b>	769.342	803.135	872.160	933.995	951.970
<b>55</b>	647.829	681.622	767.904	834.052	858.499
<b>60</b>	528.473	565.861	657.895	737.705	760.713
<b>65</b>	407.679	459.448	562.266	639.920	662.209
<b>70</b>	294.794	353.034	459.448	542.134	560.109
<b>75</b>	184.067	255.249	361.662	435.721	453.696
<b>80</b>	88.438	165.372	262.439	296.951	286.885
<b>85</b>	23.727	81.967	97.785	87.000	89.876
<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	545.32	N.A.	12.60
0-30	1152.55	N.A.	26.70
0-40	1879.2	N.A.	43.50
0-60	3308.82	N.A.	76.60
0-80	4211.41	N.A.	97.50
0-90	4317.52	N.A.	100.00
10-90	4175.95	N.A.	96.70
20-40	1333.88	N.A.	30.90
20-50	2083.73	N.A.	48.30
40-70	1973.36	N.A.	45.70
60-80	902.59	N.A.	20.90
70-80	358.85	N.A.	8.30
80-90	106.11	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	4317.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	141.58
10-20	403.74
20-30	607.23
30-40	726.65
40-50	749.85
50-60	679.77
60-70	543.74
70-80	358.85
80-90	106.11
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	13.4	15.1	13.8	15.4	15.7	15.1	16.8	15.5	17.1	17.4
	3H	15.0	16.5	15.4	16.8	17.2	17.5	19.0	17.9	19.3	19.7
	4H	15.5	16.9	15.9	17.3	17.7	18.5	20.0	18.9	20.3	20.7
	6H	15.8	17.2	16.2	17.5	17.9	19.4	20.7	19.8	21.1	21.5
	8H	15.9	17.2	16.3	17.6	18.0	19.6	20.9	20.0	21.3	21.7
	12H	15.9	17.2	16.4	17.5	18.0	19.7	21.0	20.2	21.3	21.8

UGR Viewed Endwise

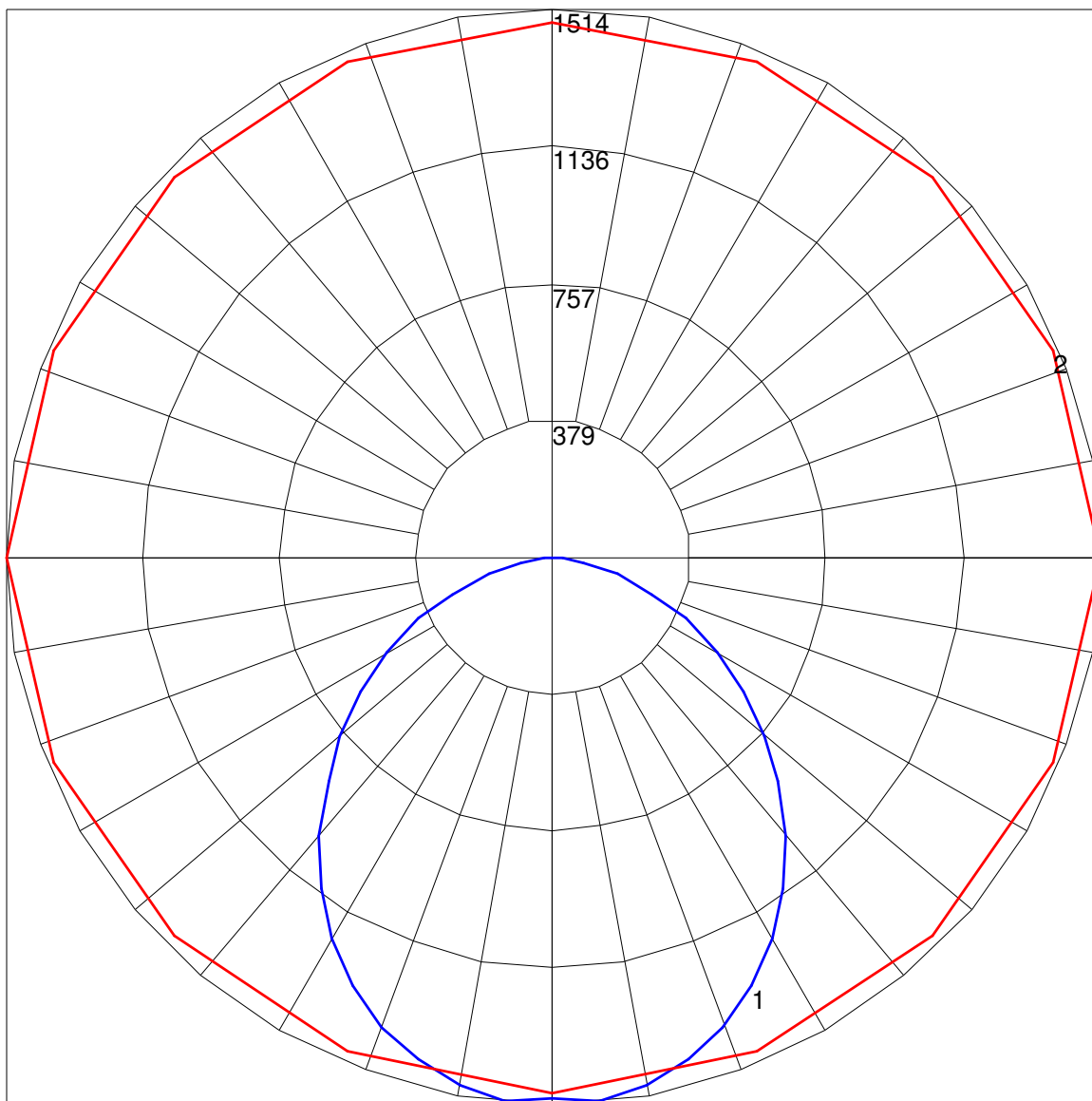
4H	2H	14.4	15.8	14.8	16.1	16.5	15.7	17.1	16.1	17.5	17.8
	3H	16.2	17.4	16.6	17.8	18.2	18.3	19.5	18.7	19.9	20.3
	4H	16.9	18.0	17.3	18.4	18.9	19.6	20.7	20.0	21.1	21.5
	6H	17.4	18.3	17.8	18.8	19.2	20.6	21.6	21.1	22.0	22.4
	8H	17.5	18.4	18.0	18.8	19.3	20.9	21.8	21.4	22.2	22.7
	12H	17.6	18.4	18.0	18.8	19.3	21.1	21.9	21.5	22.3	22.8

8H	4H	17.7	18.6	18.1	19.0	19.5	19.9	20.8	20.4	21.2	21.7
	6H	18.3	19.1	18.8	19.6	20.0	21.1	21.8	21.6	22.3	22.8
	8H	18.6	19.2	19.1	19.7	20.2	21.5	22.2	22.0	22.7	23.2
	12H	18.7	19.3	19.2	19.8	20.3	21.7	22.3	22.2	22.8	23.4

12H	4H	17.8	18.6	18.3	19.1	19.6	19.9	20.7	20.4	21.2	21.7
	6H	18.6	19.3	19.1	19.7	20.3	21.2	21.8	21.7	22.3	22.8
	8H	18.9	19.5	19.4	20.0	20.5	21.6	22.2	22.1	22.7	23.3

Maximum UGR = 23.4

POLAR GRAPH



Maximum Candela = 1514.237 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.)