



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L52-835-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-L52-835-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	5202
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
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	2149	2389	2570
55	1955	2317	2591
65	1670	2303	2712
75	1231	2419	3034
85	471	1942	1785

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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>	1807.056	1807.056	1807.056	1807.056	1807.056
<b>5</b>	1824.382	1802.725	1791.463	1787.132	1787.132
<b>10</b>	1790.597	1768.074	1762.010	1762.876	1760.277
<b>15</b>	1736.888	1721.295	1718.696	1724.760	1728.225
<b>20</b>	1666.719	1652.859	1658.923	1675.382	1678.847
<b>25</b>	1574.894	1562.766	1584.423	1607.812	1613.010
<b>30</b>	1469.208	1466.609	1496.062	1527.248	1539.376
<b>35</b>	1345.330	1355.725	1399.039	1438.888	1453.615
<b>40</b>	1214.522	1233.580	1300.283	1346.196	1363.522
<b>45</b>	1057.726	1090.644	1175.539	1251.772	1264.766
<b>50</b>	926.918	967.633	1050.795	1125.295	1146.952
<b>55</b>	780.517	821.232	925.185	1004.883	1034.336
<b>60</b>	636.714	681.761	792.644	888.801	916.522
<b>65</b>	491.180	553.552	677.429	770.988	797.842
<b>70</b>	355.174	425.343	553.552	653.174	674.831
<b>75</b>	221.767	307.529	435.738	524.965	546.621
<b>80</b>	106.552	199.244	316.192	357.773	345.645
<b>85</b>	28.587	98.756	117.814	104.820	108.285
<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	657.01	N.A.	12.60
0-30	1388.62	N.A.	26.70
0-40	2264.09	N.A.	43.50
0-60	3986.54	N.A.	76.60
0-80	5073.99	N.A.	97.50
0-90	5201.84	N.A.	100.00
10-90	5031.26	N.A.	96.70
20-40	1607.09	N.A.	30.90
20-50	2510.52	N.A.	48.30
40-70	2377.55	N.A.	45.70
60-80	1087.46	N.A.	20.90
70-80	432.35	N.A.	8.30
80-90	127.84	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	5201.84	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	170.57
10-20	486.44
20-30	731.61
30-40	875.48
40-50	903.44
50-60	819.00
60-70	655.11
70-80	432.35
80-90	127.84
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**

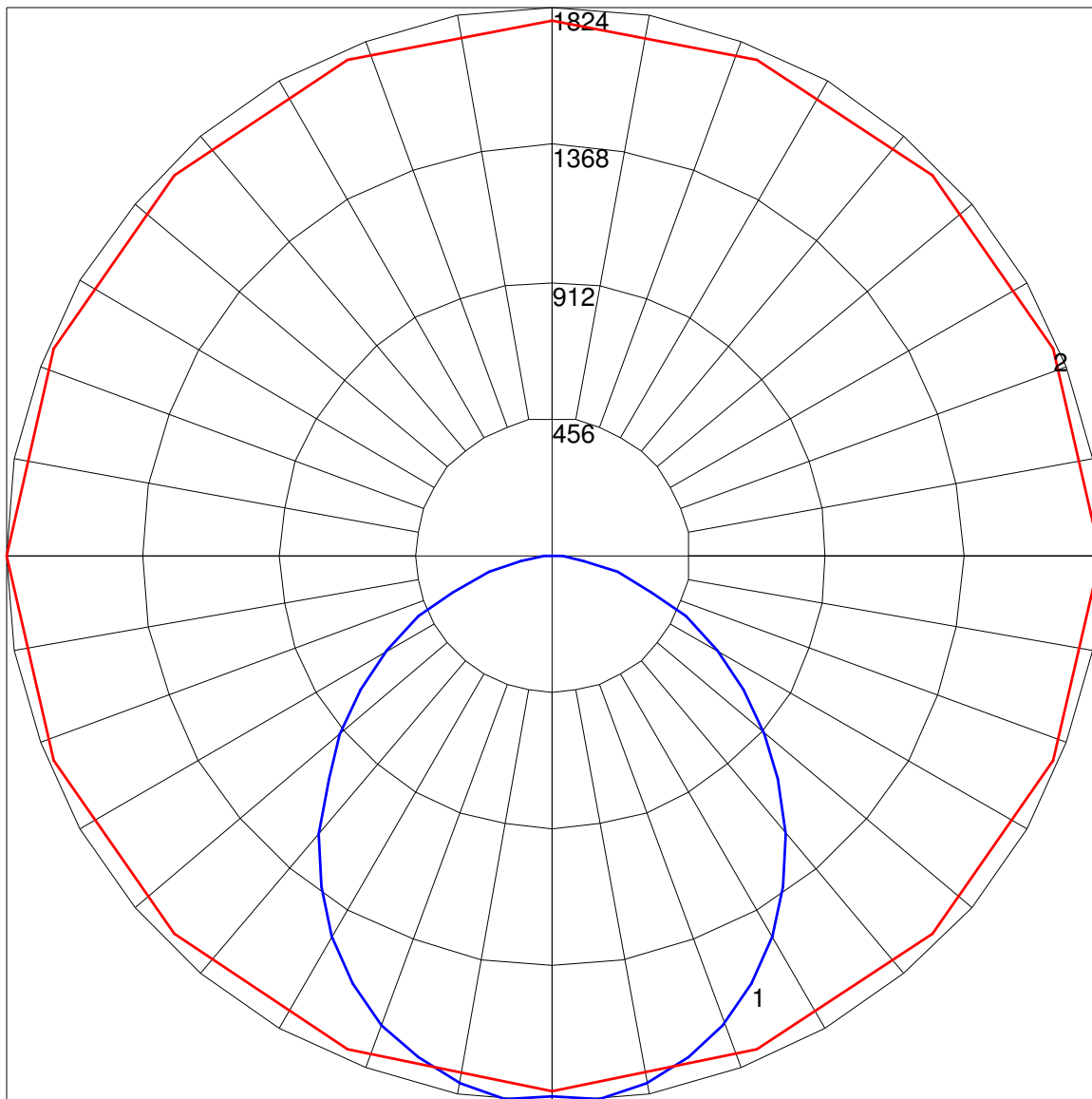
Reflectances

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	14.0	15.7	14.4	16.0	16.3	15.7	17.4	16.1	17.7	18.0
	3H	15.6	17.1	16.0	17.4	17.8	18.1	19.6	18.5	19.9	20.3
	4H	16.1	17.5	16.5	17.9	18.3	19.1	20.6	19.5	20.9	21.3
	6H	16.4	17.8	16.8	18.1	18.5	20.0	21.3	20.4	21.7	22.1
	8H	16.5	17.8	16.9	18.2	18.6	20.2	21.5	20.6	21.9	22.3
	12H	16.5	17.8	17.0	18.1	18.6	20.3	21.6	20.8	21.9	22.4
4H	2H	15.0	16.4	15.4	16.7	17.1	16.3	17.7	16.7	18.1	18.4
	3H	16.8	18.0	17.2	18.4	18.8	18.9	20.1	19.3	20.5	20.9
	4H	17.5	18.6	17.9	19.0	19.5	20.2	21.3	20.6	21.7	22.1
	6H	18.0	18.9	18.4	19.4	19.8	21.2	22.2	21.7	22.6	23.0
	8H	18.1	19.0	18.6	19.4	19.9	21.5	22.4	22.0	22.8	23.3
	12H	18.2	19.0	18.6	19.4	19.9	21.7	22.5	22.1	22.9	23.4
8H	4H	18.3	19.2	18.7	19.6	20.1	20.5	21.4	21.0	21.8	22.3
	6H	18.9	19.7	19.4	20.2	20.6	21.7	22.4	22.2	22.9	23.4
	8H	19.2	19.8	19.7	20.3	20.8	22.1	22.8	22.6	23.3	23.8
	12H	19.3	19.9	19.8	20.4	20.9	22.3	22.9	22.8	23.4	24.0
12H	4H	18.4	19.2	18.9	19.7	20.2	20.5	21.3	21.0	21.8	22.3
	6H	19.2	19.9	19.7	20.3	20.9	21.8	22.4	22.3	22.9	23.4
	8H	19.5	20.1	20.0	20.6	21.1	22.2	22.8	22.7	23.3	23.9

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 1824.382 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.)