



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L52-940-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-L52-940-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	4474
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
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	1848	2054	2210
55	1681	1993	2228
65	1436	1981	2333
75	1059	2080	2610
85	405	1670	1535

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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>	1554.068	1554.068	1554.068	1554.068	1554.068
<b>5</b>	1568.968	1550.343	1540.658	1536.933	1536.933
<b>10</b>	1539.913	1520.543	1515.328	1516.073	1513.838
<b>15</b>	1493.723	1480.313	1478.078	1483.293	1486.273
<b>20</b>	1433.378	1421.458	1426.673	1440.828	1443.808
<b>25</b>	1354.408	1343.979	1362.603	1382.718	1387.188
<b>30</b>	1263.519	1261.284	1286.614	1313.434	1323.864
<b>35</b>	1156.984	1165.924	1203.174	1237.444	1250.109
<b>40</b>	1044.489	1060.879	1118.244	1157.729	1172.629
<b>45</b>	909.644	937.954	1010.964	1076.524	1087.699
<b>50</b>	797.149	832.164	903.684	967.754	986.379
<b>55</b>	671.244	706.259	795.659	864.199	889.529
<b>60</b>	547.574	586.314	681.674	764.369	788.209
<b>65</b>	422.415	476.054	582.589	663.049	686.144
<b>70</b>	305.450	365.795	476.054	561.729	580.354
<b>75</b>	190.720	264.475	374.735	451.469	470.094
<b>80</b>	91.635	171.350	271.925	307.685	297.255
<b>85</b>	24.585	84.930	101.320	90.145	93.125
<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	565.03	N.A.	12.60
0-30	1194.21	N.A.	26.70
0-40	1947.12	N.A.	43.50
0-60	3428.42	N.A.	76.60
0-80	4363.63	N.A.	97.50
0-90	4473.58	N.A.	100.00
10-90	4326.89	N.A.	96.70
20-40	1382.09	N.A.	30.90
20-50	2159.05	N.A.	48.30
40-70	2044.69	N.A.	45.70
60-80	935.21	N.A.	20.90
70-80	371.82	N.A.	8.30
80-90	109.94	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	4473.58	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	146.69
10-20	418.33
20-30	629.18
30-40	752.91
40-50	776.96
50-60	704.34
60-70	563.39
70-80	371.82
80-90	109.94
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**

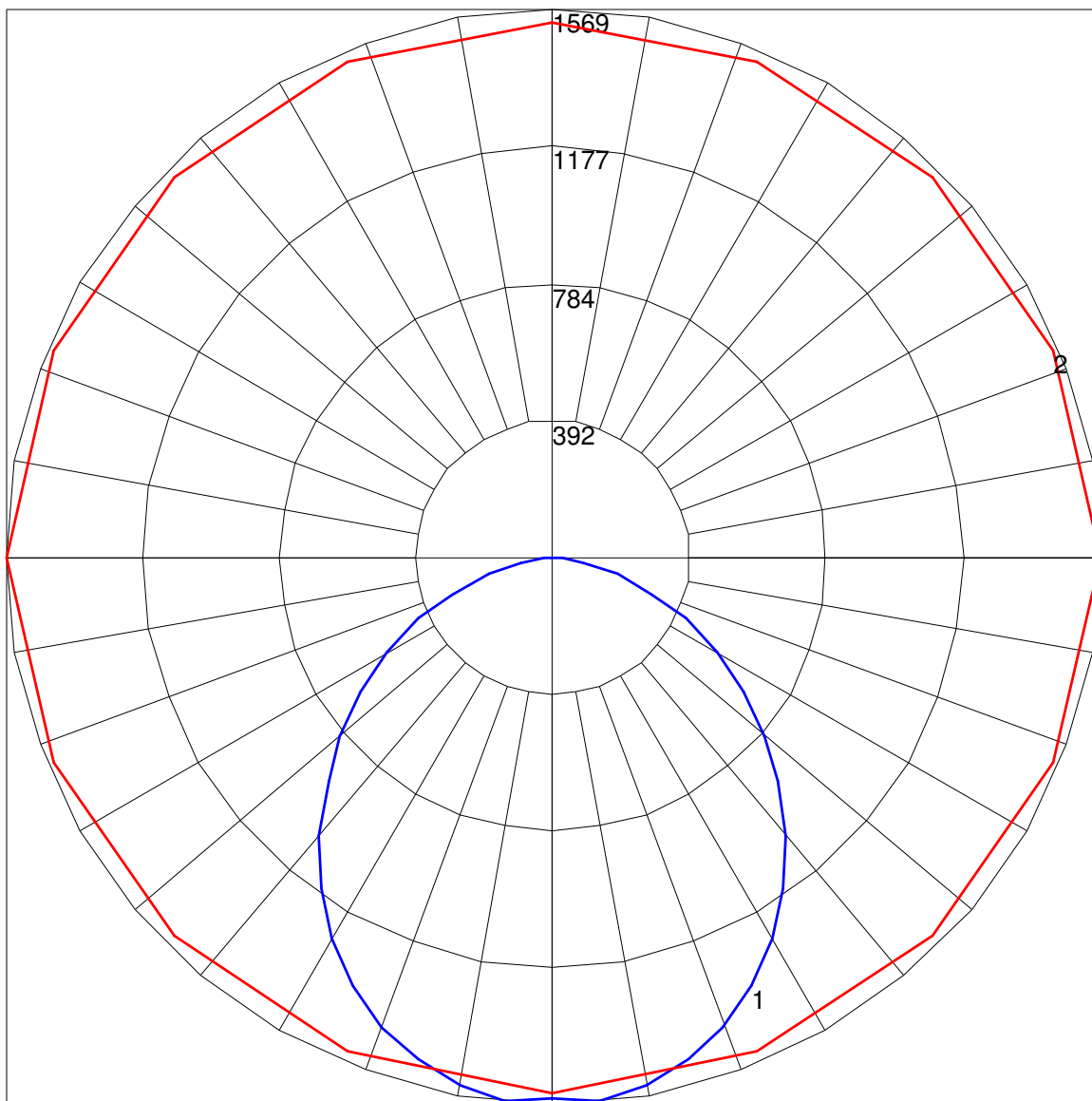
Reflectances

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	13.5	15.2	13.9	15.5	15.8	15.2	16.9	15.6	17.2	17.5
	3H	15.1	16.6	15.5	16.9	17.3	17.6	19.1	18.0	19.4	19.8
	4H	15.6	17.0	16.0	17.4	17.8	18.6	20.1	19.0	20.4	20.8
	6H	15.9	17.3	16.3	17.6	18.0	19.5	20.8	19.9	21.2	21.6
	8H	16.0	17.3	16.4	17.7	18.1	19.7	21.0	20.1	21.4	21.8
	12H	16.0	17.3	16.5	17.6	18.1	19.8	21.1	20.3	21.4	21.9
4H	2H	14.5	15.9	14.9	16.2	16.6	15.8	17.2	16.2	17.6	17.9
	3H	16.3	17.5	16.7	17.9	18.3	18.4	19.6	18.8	20.0	20.4
	4H	17.0	18.1	17.4	18.5	19.0	19.7	20.8	20.1	21.2	21.6
	6H	17.5	18.4	17.9	18.9	19.3	20.7	21.7	21.2	22.1	22.5
	8H	17.6	18.5	18.1	18.9	19.4	21.0	21.9	21.5	22.3	22.8
	12H	17.7	18.5	18.1	18.9	19.4	21.2	22.0	21.6	22.4	22.9
8H	4H	17.8	18.7	18.2	19.1	19.6	20.0	20.9	20.5	21.3	21.8
	6H	18.4	19.2	18.9	19.7	20.1	21.2	21.9	21.7	22.4	22.9
	8H	18.7	19.3	19.2	19.8	20.3	21.6	22.3	22.1	22.8	23.3
	12H	18.8	19.4	19.3	19.9	20.4	21.8	22.4	22.3	22.9	23.5
12H	4H	17.9	18.7	18.4	19.2	19.7	20.0	20.8	20.5	21.3	21.8
	6H	18.7	19.4	19.2	19.8	20.4	21.3	21.9	21.8	22.4	22.9
	8H	19.0	19.6	19.5	20.1	20.6	21.7	22.3	22.2	22.8	23.4

Maximum UGR = 23.5

POLAR GRAPH



Maximum Candela = 1568.968 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.)