



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L39-940-AF-(L32)-EM10W-DIM-UNV\_EM MODE ONLY.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20203.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 10-31-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2x2 RECESSED LED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS  
 [MORE] 0-10V DIMMING DRIVER  
 [LUMCAT] LT-22-L39-940-AF-(L32)-EMBSL10LST-DIM-UNV  
 [LAMPCAT] 22 INCH LED ARRAY  
 [\_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	1090
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	10
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	943	1012	1090
55	854	996	1124
65	753	986	1218
75	579	1046	1423
85	252	850	829

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
<b>0</b>	362.708	362.708	362.708	362.708	362.708
<b>5</b>	362.396	360.834	360.522	359.272	360.209
<b>10</b>	356.148	354.586	355.835	354.586	355.523
<b>15</b>	346.776	346.151	348.025	348.650	349.587
<b>20</b>	331.780	333.967	336.778	339.903	340.527
<b>25</b>	314.597	318.971	323.032	328.031	329.281
<b>30</b>	296.165	301.164	307.099	314.597	317.097
<b>35</b>	275.858	280.232	287.418	298.664	301.164
<b>40</b>	252.740	257.114	267.111	278.982	283.044
<b>45</b>	227.747	231.809	244.617	257.114	263.362
<b>50</b>	198.381	203.692	219.937	232.746	241.806
<b>55</b>	167.452	174.950	195.257	209.315	220.249
<b>60</b>	138.085	146.520	169.951	187.759	198.381
<b>65</b>	108.719	117.779	142.459	166.515	175.887
<b>70</b>	79.977	89.662	117.154	143.396	153.081
<b>75</b>	51.235	63.107	92.473	118.404	125.901
<b>80</b>	25.305	39.676	63.732	87.163	84.663
<b>85</b>	7.498	15.308	25.305	42.800	24.680
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	132.36	N.A.	12.10
0-30	281.32	N.A.	25.80
0-40	461.94	N.A.	42.40
0-60	823.81	N.A.	75.60
0-80	1059.7	N.A.	97.20
0-90	1089.95	N.A.	100.00
10-90	1055.71	N.A.	96.90
20-40	329.58	N.A.	30.20
20-50	518.22	N.A.	47.50
40-70	502.89	N.A.	46.10
60-80	235.89	N.A.	21.60
70-80	94.87	N.A.	8.70
80-90	30.25	N.A.	2.80
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	1089.95	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	34.25
10-20	98.11
20-30	148.96
30-40	180.62
40-50	188.64
50-60	173.23
60-70	141.02
70-80	94.87
80-90	30.25
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	98	94	105	101	96	93	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	63	86	76	68	62	73	66	61	70	65	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	55	50	48
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	45	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	38	34	32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	39	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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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	11.2	12.9	11.6	13.2	13.5	12.8	14.5	13.2	14.8	15.1
	3H	12.8	14.4	13.2	14.7	15.0	15.4	16.9	15.7	17.2	17.6
	4H	13.4	14.8	13.8	15.2	15.5	16.5	18.0	16.9	18.3	18.7
	6H	13.7	15.1	14.1	15.4	15.8	17.5	18.8	17.9	19.2	19.6
	8H	13.8	15.1	14.2	15.5	15.9	17.8	19.1	18.2	19.5	19.9
	12H	13.8	15.1	14.3	15.4	15.9	17.9	19.2	18.4	19.6	20.0

### UGR Viewed Endwise

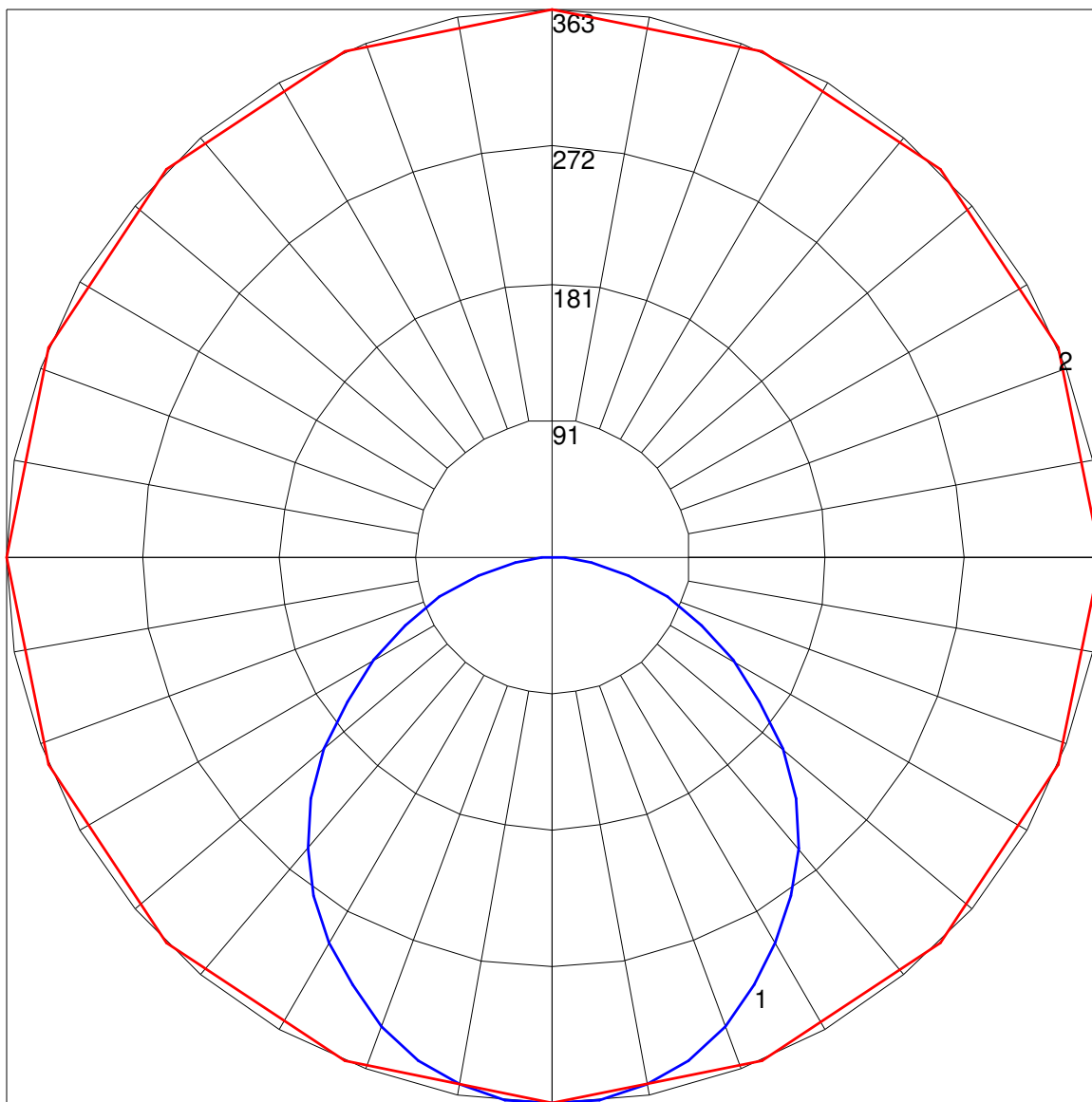
4H	2H	12.1	13.6	12.5	13.9	14.3	13.4	14.8	13.8	15.2	15.5
	3H	14.0	15.2	14.4	15.6	16.0	16.2	17.4	16.6	17.8	18.2
	4H	14.7	15.8	15.1	16.2	16.6	17.5	18.7	18.0	19.1	19.5
	6H	15.2	16.1	15.6	16.6	17.0	18.7	19.7	19.2	20.1	20.6
	8H	15.3	16.2	15.7	16.6	17.1	19.1	20.0	19.6	20.5	20.9
	12H	15.3	16.2	15.8	16.6	17.1	19.3	20.2	19.8	20.6	21.1
8H	4H	15.4	16.3	15.9	16.8	17.3	17.8	18.8	18.3	19.2	19.7
	6H	16.1	16.8	16.6	17.3	17.8	19.2	20.0	19.7	20.5	21.0
	8H	16.3	17.0	16.8	17.5	17.9	19.8	20.4	20.3	21.0	21.4
	12H	16.4	17.0	16.9	17.5	18.0	20.1	20.7	20.6	21.2	21.8
12H	4H	15.6	16.4	16.1	16.9	17.4	17.9	18.7	18.3	19.2	19.6
	6H	16.3	17.0	16.9	17.5	18.0	19.3	20.0	19.8	20.4	21.0
	8H	16.6	17.2	17.1	17.7	18.3	19.9	20.5	20.4	21.0	21.5

Maximum UGR = 21.8

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## POLAR GRAPH



Maximum Candela = 362.708 Located At Horizontal Angle = 0, Vertical Angle = 0

# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)

# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)