



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L39-930-AF-DIM-UNV\_.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] 2023-07-21  
 [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-L39-930-AF-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	3226
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	33.1
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	2789	2996	3226
55	2528	2948	3326
65	2228	2919	3604
75	1714	3094	4213
85	745	2515	2452

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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>	1073.444	1073.444	1073.444	1073.444	1073.444
<b>5</b>	1072.520	1067.897	1066.972	1063.274	1066.047
<b>10</b>	1054.028	1049.405	1053.103	1049.405	1052.179
<b>15</b>	1026.290	1024.441	1029.989	1031.838	1034.612
<b>20</b>	981.910	988.382	996.704	1005.949	1007.799
<b>25</b>	931.058	944.002	956.022	970.815	974.513
<b>30</b>	876.507	891.301	908.868	931.058	938.455
<b>35</b>	816.409	829.353	850.619	883.904	891.301
<b>40</b>	747.990	760.934	790.521	825.655	837.675
<b>45</b>	674.023	686.043	723.951	760.934	779.426
<b>50</b>	587.112	602.830	650.908	688.816	715.629
<b>55</b>	495.578	517.768	577.866	619.472	651.833
<b>60</b>	408.667	433.631	502.975	555.676	587.112
<b>65</b>	321.756	348.569	421.611	492.804	520.542
<b>70</b>	236.694	265.356	346.720	424.385	453.047
<b>75</b>	151.632	186.766	273.677	350.418	372.608
<b>80</b>	74.891	117.422	188.616	257.959	250.563
<b>85</b>	22.190	45.305	74.891	126.668	73.042
<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	391.71	N.A.	12.10
0-30	832.57	N.A.	25.80
0-40	1367.12	N.A.	42.40
0-60	2438.09	N.A.	75.60
0-80	3136.21	N.A.	97.20
0-90	3225.74	N.A.	100.00
10-90	3124.38	N.A.	96.90
20-40	975.41	N.A.	30.20
20-50	1533.69	N.A.	47.50
40-70	1488.32	N.A.	46.10
60-80	698.12	N.A.	21.60
70-80	280.77	N.A.	8.70
80-90	89.53	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	3225.74	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	101.36
10-20	290.35
20-30	440.86
30-40	534.55
40-50	558.28
50-60	512.69
60-70	417.36
70-80	280.77
80-90	89.53
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**

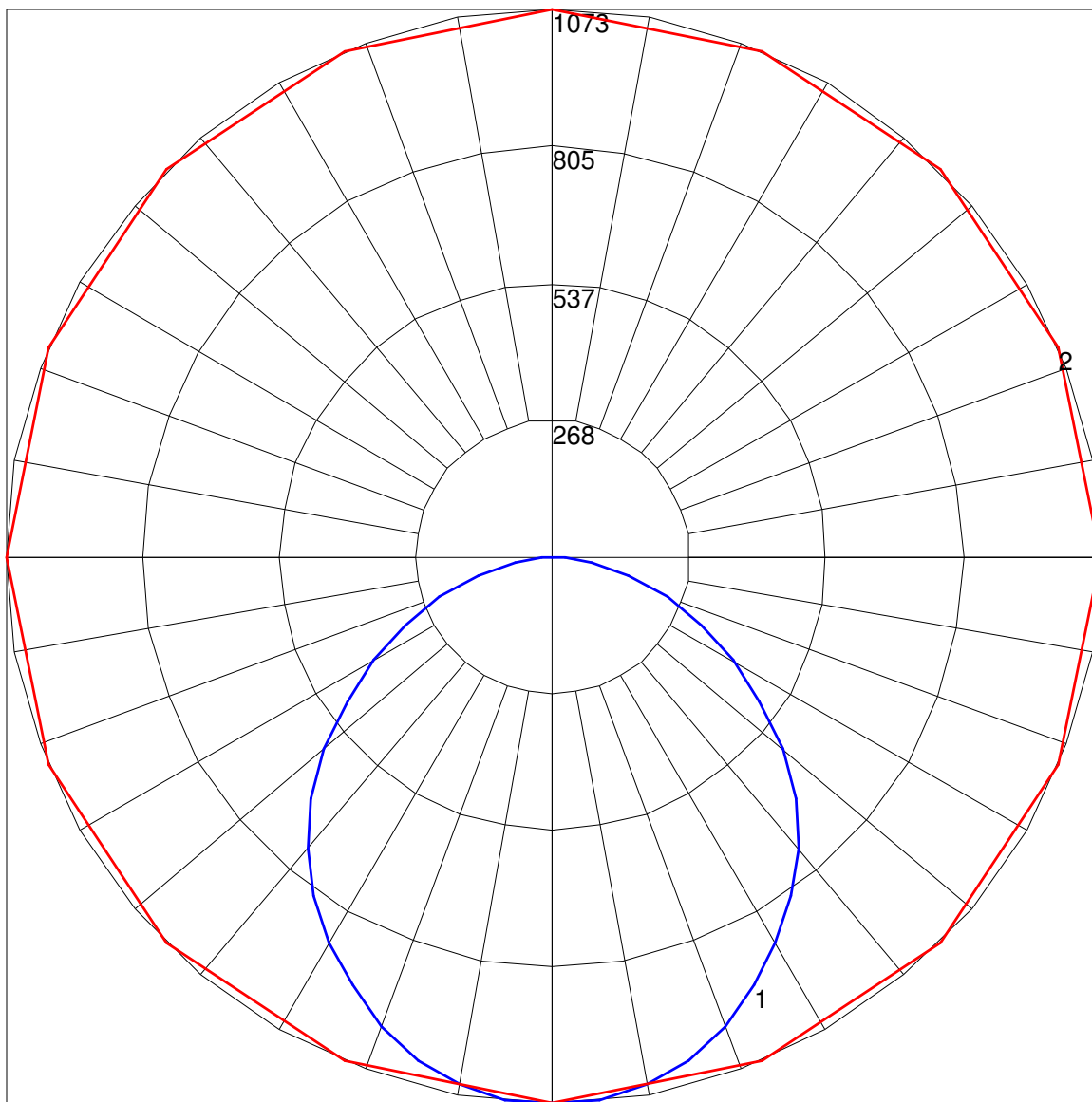
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	15.0	16.7	15.4	17.0	17.3	16.6	18.3	17.0	18.6	18.9
	3H	16.6	18.2	17.0	18.5	18.8	19.2	20.7	19.5	21.0	21.4
	4H	17.2	18.6	17.6	19.0	19.4	20.3	21.8	20.7	22.1	22.5
	6H	17.5	18.9	17.9	19.2	19.6	21.3	22.6	21.7	23.0	23.4
	8H	17.6	18.9	18.0	19.3	19.7	21.6	22.9	22.0	23.3	23.7
	12H	17.6	18.9	18.1	19.2	19.7	21.7	23.0	22.2	23.4	23.8
4H	2H	15.9	17.4	16.3	17.7	18.1	17.2	18.6	17.6	19.0	19.3
	3H	17.8	19.0	18.2	19.4	19.8	20.0	21.2	20.4	21.6	22.0
	4H	18.5	19.6	18.9	20.0	20.5	21.3	22.5	21.8	22.9	23.3
	6H	19.0	19.9	19.4	20.4	20.8	22.5	23.5	23.0	24.0	24.4
	8H	19.1	20.0	19.5	20.4	20.9	22.9	23.8	23.4	24.3	24.7
	12H	19.1	20.0	19.6	20.4	20.9	23.1	24.0	23.6	24.4	24.9
8H	4H	19.2	20.1	19.7	20.6	21.1	21.6	22.6	22.1	23.0	23.5
	6H	19.9	20.6	20.4	21.1	21.6	23.0	23.8	23.5	24.3	24.8
	8H	20.1	20.8	20.6	21.3	21.7	23.6	24.3	24.1	24.8	25.2
	12H	20.2	20.8	20.7	21.3	21.8	23.9	24.5	24.4	25.0	25.6
12H	4H	19.4	20.2	19.9	20.7	21.2	21.7	22.5	22.1	23.0	23.4
	6H	20.1	20.8	20.7	21.3	21.8	23.1	23.8	23.6	24.2	24.8
	8H	20.4	21.0	20.9	21.5	22.1	23.7	24.3	24.2	24.8	25.3

Maximum UGR = 25.6

POLAR GRAPH



Maximum Candela = 1073.444 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.)