



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : LT-22-L39-927-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-L39-927-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	3147
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	95
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	2721	2923	3147
55	2467	2876	3244
65	2174	2848	3516
75	1673	3019	4110
85	727	2453	2393

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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>	1047.262	1047.262	1047.262	1047.262	1047.262
<b>5</b>	1046.360	1041.850	1040.948	1037.340	1040.046
<b>10</b>	1028.320	1023.810	1027.418	1023.810	1026.516
<b>15</b>	1001.259	999.455	1004.867	1006.671	1009.377
<b>20</b>	957.961	964.275	972.394	981.414	983.218
<b>25</b>	908.349	920.978	932.704	947.137	950.745
<b>30</b>	855.129	869.562	886.700	908.349	915.565
<b>35</b>	796.497	809.125	829.872	862.345	869.562
<b>40</b>	729.746	742.375	771.240	805.517	817.244
<b>45</b>	657.583	669.310	706.293	742.375	760.415
<b>50</b>	572.792	588.127	635.033	672.016	698.175
<b>55</b>	483.491	505.140	563.772	604.363	635.935
<b>60</b>	398.699	423.054	490.707	542.123	572.792
<b>65</b>	313.908	340.067	411.328	480.785	507.846
<b>70</b>	230.921	258.884	338.263	414.034	441.997
<b>75</b>	147.934	182.211	267.002	341.871	363.520
<b>80</b>	73.065	114.558	184.015	251.668	244.451
<b>85</b>	21.649	44.200	73.065	123.579	71.261
<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	382.16	N.A.	12.10
0-30	812.26	N.A.	25.80
0-40	1333.78	N.A.	42.40
0-60	2378.62	N.A.	75.60
0-80	3059.72	N.A.	97.20
0-90	3147.07	N.A.	100.00
10-90	3048.18	N.A.	96.90
20-40	951.62	N.A.	30.20
20-50	1496.29	N.A.	47.50
40-70	1452.02	N.A.	46.10
60-80	681.10	N.A.	21.60
70-80	273.92	N.A.	8.70
80-90	87.35	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	3147.07	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	98.89
10-20	283.27
20-30	430.11
30-40	521.52
40-50	544.66
50-60	500.18
60-70	407.18
70-80	273.92
80-90	87.35
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	90	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**

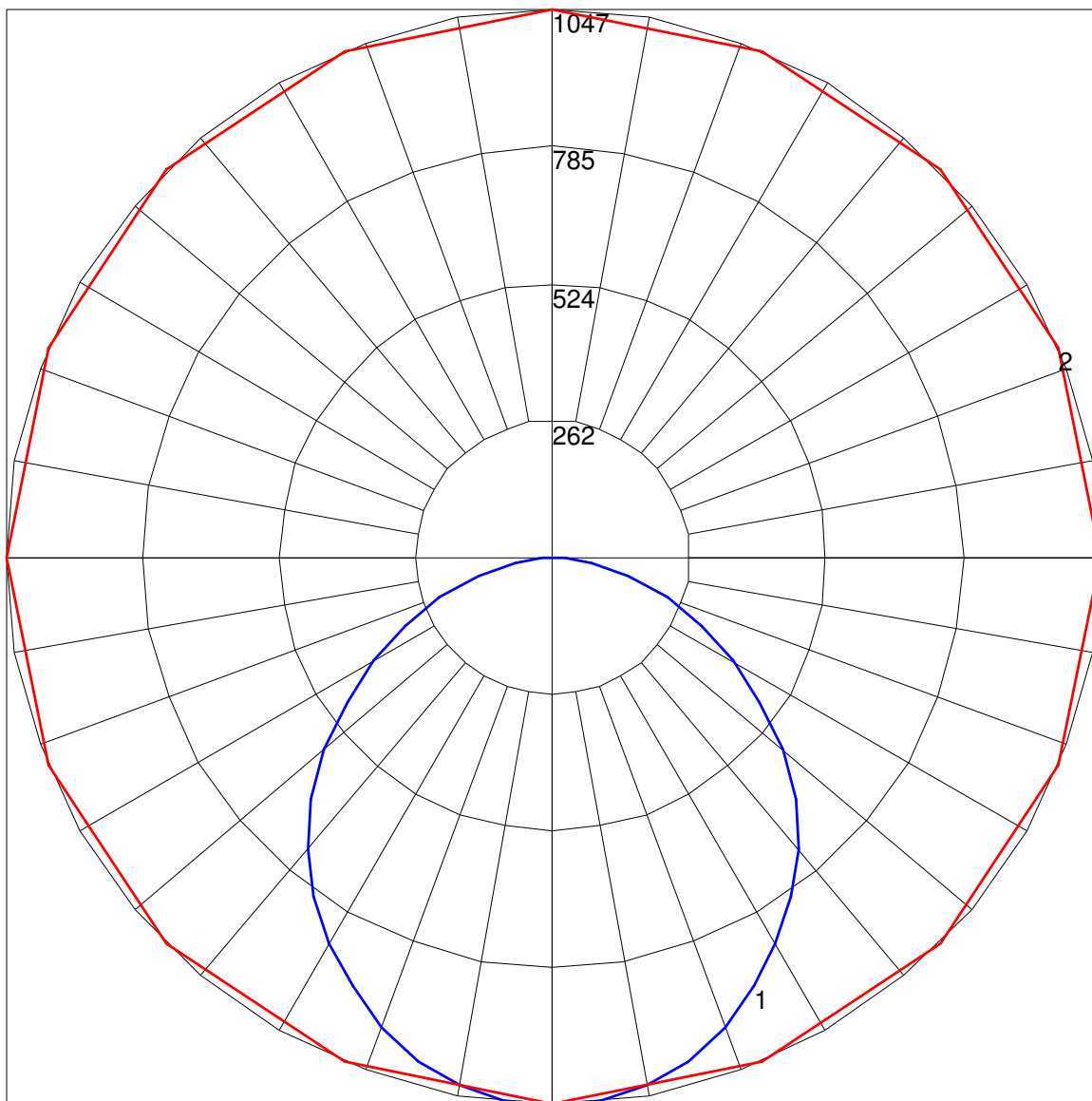
Reflectances

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	14.9	16.6	15.3	16.9	17.2	16.5	18.2	16.9	18.5	18.8
	3H	16.5	18.1	16.9	18.4	18.7	19.1	20.6	19.4	20.9	21.3
	4H	17.1	18.5	17.5	18.9	19.3	20.2	21.7	20.6	22.0	22.4
	6H	17.4	18.8	17.8	19.1	19.5	21.2	22.5	21.6	22.9	23.3
	8H	17.5	18.8	17.9	19.2	19.6	21.5	22.8	21.9	23.2	23.6
	12H	17.5	18.8	18.0	19.1	19.6	21.6	22.9	22.1	23.3	23.7
4H	2H	15.8	17.3	16.2	17.6	18.0	17.1	18.5	17.5	18.9	19.2
	3H	17.7	18.9	18.1	19.3	19.7	19.9	21.1	20.3	21.5	21.9
	4H	18.4	19.5	18.8	19.9	20.4	21.2	22.4	21.7	22.8	23.2
	6H	18.9	19.8	19.3	20.3	20.7	22.4	23.4	22.9	23.9	24.3
	8H	19.0	19.9	19.4	20.3	20.8	22.8	23.7	23.3	24.2	24.6
	12H	19.0	19.9	19.5	20.3	20.8	23.0	23.9	23.5	24.3	24.8
8H	4H	19.1	20.1	19.6	20.5	21.0	21.5	22.5	22.0	22.9	23.4
	6H	19.8	20.5	20.3	21.0	21.5	22.9	23.7	23.4	24.2	24.7
	8H	20.0	20.7	20.5	21.2	21.6	23.5	24.2	24.0	24.7	25.1
	12H	20.1	20.7	20.6	21.2	21.7	23.8	24.4	24.3	24.9	25.5
12H	4H	19.3	20.1	19.8	20.6	21.1	21.6	22.4	22.0	22.9	23.3
	6H	20.1	20.7	20.6	21.2	21.7	23.0	23.7	23.5	24.1	24.7
	8H	20.3	20.9	20.8	21.4	22.0	23.6	24.2	24.1	24.7	25.2

Maximum UGR = 25.5

POLAR GRAPH



Maximum Candela = 1047.262 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.)