



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L49-940-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-L49-940-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	4187
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	38.1
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	3621	3889	4187
55	3282	3827	4317
65	2892	3789	4679
75	2225	4017	5468
85	967	3264	3183

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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>	1393.380	1393.380	1393.380	1393.380	1393.380
<b>5</b>	1392.180	1386.179	1384.979	1380.178	1383.779
<b>10</b>	1368.177	1362.176	1366.977	1362.176	1365.776
<b>15</b>	1332.172	1329.772	1336.973	1339.373	1342.973
<b>20</b>	1274.565	1282.966	1293.767	1305.769	1308.169
<b>25</b>	1208.556	1225.358	1240.960	1260.163	1264.963
<b>30</b>	1137.747	1156.949	1179.752	1208.556	1218.157
<b>35</b>	1059.737	1076.539	1104.143	1147.348	1156.949
<b>40</b>	970.925	987.728	1026.133	1071.738	1087.340
<b>45</b>	874.913	890.515	939.721	987.728	1011.731
<b>50</b>	762.098	782.501	844.909	894.115	928.920
<b>55</b>	643.283	672.087	750.097	804.104	846.109
<b>60</b>	530.469	562.873	652.884	721.293	762.098
<b>65</b>	417.654	452.458	547.271	639.683	675.687
<b>70</b>	307.240	344.444	450.058	550.871	588.076
<b>75</b>	196.825	242.431	355.246	454.859	483.662
<b>80</b>	97.213	152.420	244.832	334.843	325.242
<b>85</b>	28.804	58.808	97.213	164.421	94.812
<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	508.46	N.A.	12.10
0-30	1080.71	N.A.	25.80
0-40	1774.59	N.A.	42.40
0-60	3164.75	N.A.	75.60
0-80	4070.95	N.A.	97.20
0-90	4187.16	N.A.	100.00
10-90	4055.59	N.A.	96.90
20-40	1266.13	N.A.	30.20
20-50	1990.8	N.A.	47.50
40-70	1931.91	N.A.	46.10
60-80	906.20	N.A.	21.60
70-80	364.45	N.A.	8.70
80-90	116.21	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	4187.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	131.57
10-20	376.89
20-30	572.26
30-40	693.88
40-50	724.67
50-60	665.49
60-70	541.75
70-80	364.45
80-90	116.21
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**

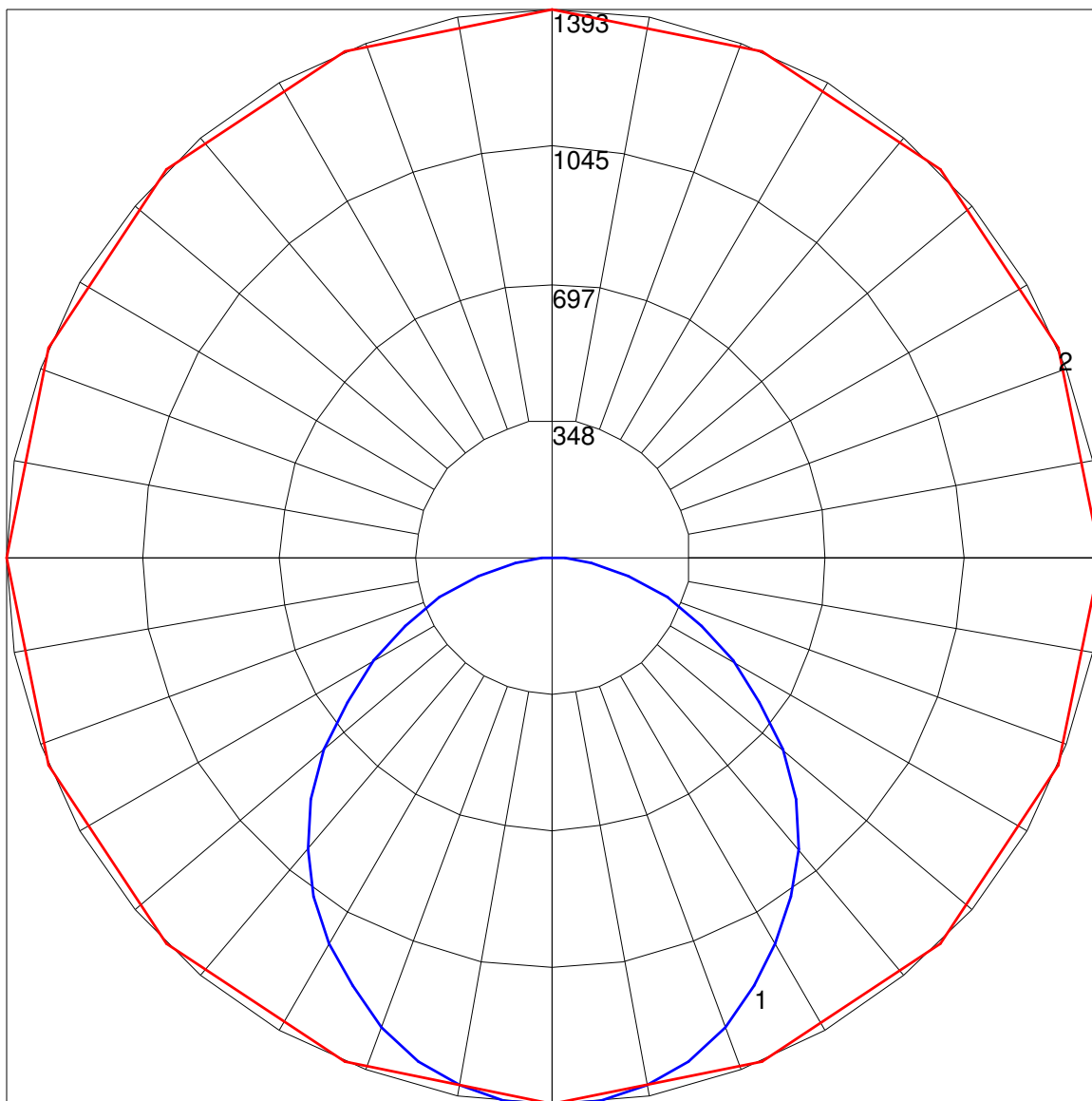
Reflectances

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	15.9	17.6	16.3	17.9	18.2	17.5	19.2	17.9	19.5	19.8
	3H	17.5	19.1	17.9	19.4	19.7	20.1	21.6	20.4	21.9	22.3
	4H	18.1	19.5	18.5	19.9	20.3	21.2	22.7	21.6	23.0	23.4
	6H	18.4	19.8	18.8	20.1	20.5	22.2	23.5	22.6	23.9	24.3
	8H	18.5	19.8	18.9	20.2	20.6	22.5	23.8	22.9	24.2	24.6
	12H	18.5	19.8	19.0	20.1	20.6	22.6	23.9	23.1	24.3	24.7
4H	2H	16.8	18.3	17.2	18.6	19.0	18.1	19.5	18.5	19.9	20.2
	3H	18.7	19.9	19.1	20.3	20.7	20.9	22.1	21.3	22.5	22.9
	4H	19.4	20.5	19.8	20.9	21.4	22.2	23.4	22.7	23.8	24.2
	6H	19.9	20.8	20.3	21.3	21.7	23.4	24.4	23.9	24.9	25.3
	8H	20.0	20.9	20.4	21.3	21.8	23.8	24.7	24.3	25.2	25.6
	12H	20.0	20.9	20.5	21.3	21.8	24.0	24.9	24.5	25.3	25.8
8H	4H	20.1	21.1	20.6	21.5	22.0	22.5	23.5	23.0	23.9	24.4
	6H	20.8	21.5	21.3	22.0	22.5	23.9	24.7	24.4	25.2	25.7
	8H	21.0	21.7	21.5	22.2	22.6	24.5	25.2	25.0	25.7	26.1
	12H	21.1	21.7	21.6	22.2	22.7	24.8	25.4	25.3	25.9	26.5
12H	4H	20.3	21.1	20.8	21.6	22.1	22.6	23.4	23.0	23.9	24.3
	6H	21.1	21.7	21.6	22.2	22.7	24.0	24.7	24.5	25.1	25.7
	8H	21.3	21.9	21.8	22.4	23.0	24.6	25.2	25.1	25.7	26.2

Maximum UGR = 26.5

POLAR GRAPH



Maximum Candela = 1393.38 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.)