



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L39-940-AF-(L33)-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] 11-15/2023
 [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-(L33)-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	2901
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
Total Luminaire Watts	26.5
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	2508	2694	2901
55	2274	2651	2991
65	2004	2625	3241
75	1542	2783	3789
85	670	2261	2205

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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>
0	965.337	965.337	965.337	965.337	965.337
5	964.506	960.348	959.517	956.191	958.685
10	947.876	943.719	947.045	943.719	946.213
15	922.932	921.269	926.258	927.921	930.415
20	883.021	888.842	896.325	904.640	906.303
25	837.291	848.931	859.740	873.044	876.370
30	788.234	801.537	817.335	837.291	843.942
35	734.188	745.829	764.953	794.886	801.537
40	672.659	684.300	710.907	742.503	753.312
45	606.142	616.951	651.041	684.300	700.929
50	527.984	542.119	585.355	619.445	643.558
55	445.668	465.623	519.669	557.085	586.187
60	367.510	389.960	452.320	499.714	527.984
65	289.352	313.464	379.150	443.174	468.118
70	212.856	238.632	311.801	381.645	407.420
75	136.361	167.957	246.115	315.127	335.083
80	67.349	105.597	169.620	231.980	225.328
85	19.955	40.742	67.349	113.911	65.686
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	352.26	N.A.	12.10
0-30	748.72	N.A.	25.80
0-40	1229.44	N.A.	42.40
0-60	2192.55	N.A.	75.60
0-80	2820.36	N.A.	97.20
0-90	2900.88	N.A.	100.00
10-90	2809.73	N.A.	96.90
20-40	877.18	N.A.	30.20
20-50	1379.23	N.A.	47.50
40-70	1338.43	N.A.	46.10
60-80	627.82	N.A.	21.60
70-80	252.49	N.A.	8.70
80-90	80.51	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	2900.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	91.15
10-20	261.11
20-30	396.46
30-40	480.72
40-50	502.05
50-60	461.05
60-70	375.32
70-80	252.49
80-90	80.51
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

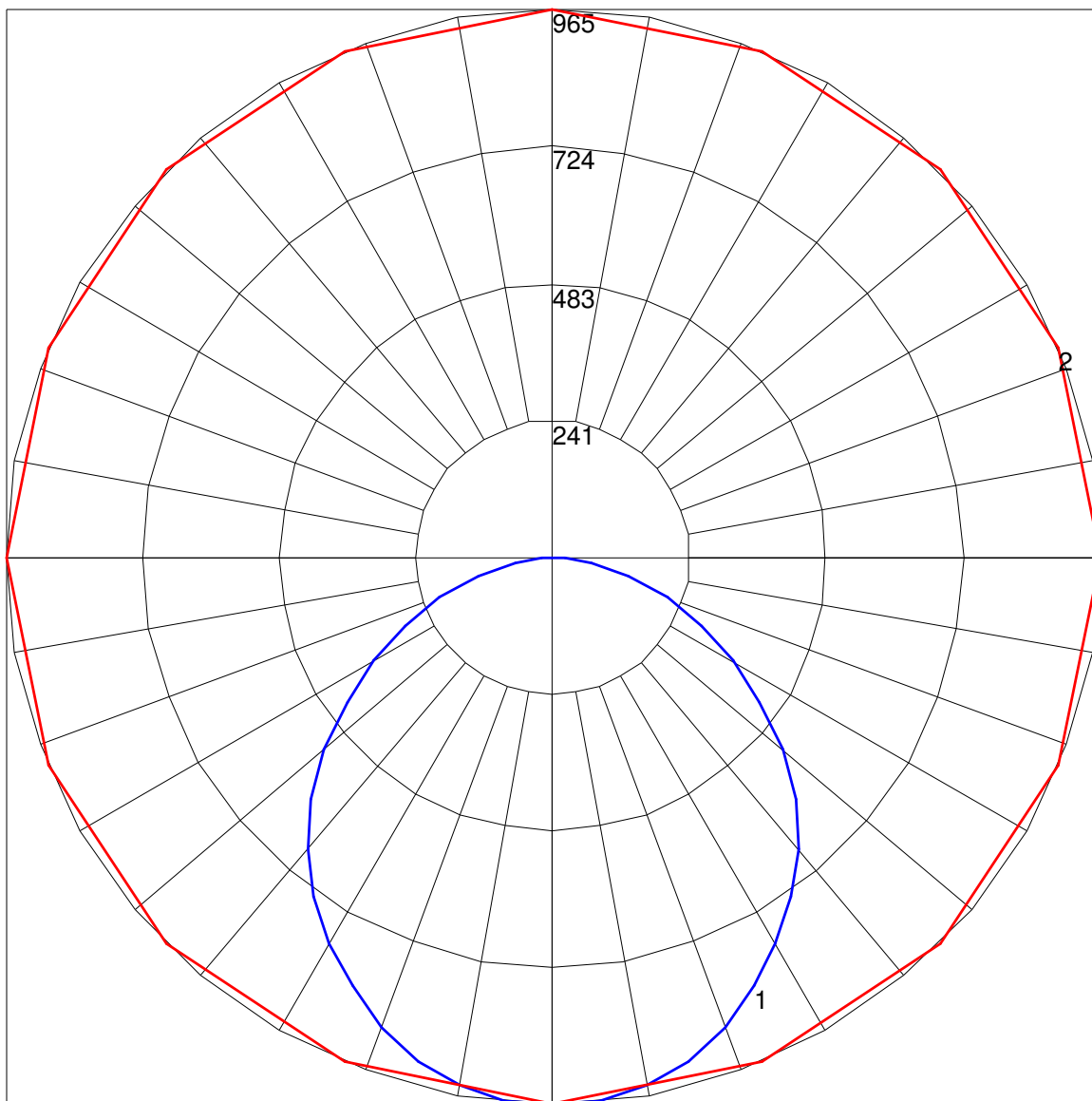
Reflectances

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	14.6	16.3	15.0	16.6	16.9	16.2	17.9	16.6	18.2	18.5
	3H	16.2	17.8	16.6	18.1	18.4	18.8	20.3	19.1	20.6	21.0
	4H	16.8	18.2	17.2	18.6	19.0	19.9	21.4	20.3	21.7	22.1
	6H	17.1	18.5	17.5	18.8	19.2	20.9	22.2	21.3	22.6	23.0
	8H	17.2	18.5	17.6	18.9	19.3	21.2	22.5	21.6	22.9	23.3
	12H	17.2	18.5	17.7	18.8	19.3	21.3	22.6	21.8	23.0	23.4
4H	2H	15.5	17.0	15.9	17.3	17.7	16.8	18.2	17.2	18.6	18.9
	3H	17.4	18.6	17.8	19.0	19.4	19.6	20.8	20.0	21.2	21.6
	4H	18.1	19.2	18.5	19.6	20.1	20.9	22.1	21.4	22.5	22.9
	6H	18.6	19.5	19.0	20.0	20.4	22.1	23.1	22.6	23.6	24.0
	8H	18.7	19.6	19.1	20.0	20.5	22.5	23.4	23.0	23.9	24.3
	12H	18.7	19.6	19.2	20.0	20.5	22.7	23.6	23.2	24.0	24.5
8H	4H	18.8	19.8	19.3	20.2	20.7	21.2	22.2	21.7	22.6	23.1
	6H	19.5	20.2	20.0	20.7	21.2	22.6	23.4	23.1	23.9	24.4
	8H	19.7	20.4	20.2	20.9	21.3	23.2	23.9	23.7	24.4	24.8
	12H	19.8	20.4	20.3	20.9	21.4	23.5	24.1	24.0	24.6	25.2
12H	4H	19.0	19.8	19.5	20.3	20.8	21.3	22.1	21.7	22.6	23.0
	6H	19.8	20.4	20.3	20.9	21.4	22.7	23.4	23.2	23.8	24.4
	8H	20.0	20.6	20.5	21.1	21.7	23.3	23.9	23.8	24.4	24.9

Maximum UGR = 25.2

POLAR GRAPH



Maximum Candela = 965.337 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.)