



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-24-L110-840-AF-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20802.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-07-24
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE
[LUMINAIRE] WHITE REFLECTOR w/FROSTED CENTER LENS
[LUMINAIRE] 0-10V DIMMING DRIVER
[LUMCAT] LT-24-L110-840-AF-DIM-UNV
[LAMPCAT] 22 INCH LED ARRAYS
[_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	11397
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	139
Total Luminaire Watts	81.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.93 ft
Luminous Width (90-270)	1.91 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4709	5233	5630
55	4283	5077	5676
65	3658	5046	5942
75	2697	5299	6648
85	1032	4255	3911

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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	3959.040	3959.040	3959.040	3959.040	3959.040
5	3996.998	3949.551	3924.878	3915.388	3915.388
10	3922.980	3873.634	3860.349	3862.247	3856.553
15	3805.310	3771.147	3765.453	3778.739	3786.330
20	3651.579	3621.212	3634.498	3670.558	3678.150
25	3450.400	3423.830	3471.277	3522.521	3533.908
30	3218.855	3213.162	3277.691	3346.015	3372.586
35	2947.454	2970.229	3065.125	3152.429	3184.693
40	2660.870	2702.624	2848.763	2949.352	2987.310
45	2317.348	2389.469	2575.464	2742.480	2770.949
50	2030.764	2119.965	2302.165	2465.385	2512.833
55	1710.017	1799.219	2026.968	2201.576	2266.105
60	1394.964	1493.655	1736.588	1947.256	2007.989
65	1076.115	1212.764	1484.166	1689.140	1747.975
70	778.143	931.874	1212.764	1431.024	1478.472
75	485.865	673.758	954.649	1150.133	1197.581
80	233.443	436.519	692.737	783.837	757.266
85	62.631	216.362	258.116	229.647	237.239
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1439.43	N.A.	12.60
0-30	3042.29	N.A.	26.70
0-40	4960.36	N.A.	43.50
0-60	8734.01	N.A.	76.60
0-80	11116.5	N.A.	97.50
0-90	11396.59	N.A.	100.00
10-90	11022.88	N.A.	96.70
20-40	3520.93	N.A.	30.90
20-50	5500.25	N.A.	48.30
40-70	5208.91	N.A.	45.70
60-80	2382.49	N.A.	20.90
70-80	947.23	N.A.	8.30
80-90	280.09	N.A.	2.50
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	11396.59	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	373.71
10-20	1065.72
20-30	1602.86
30-40	1918.06
40-50	1979.32
50-60	1794.33
60-70	1435.26
70-80	947.23
80-90	280.09
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	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	82	77	95	88	81	76	84	79	74	81	76	72	78	74	70	68
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	59	57
4	82	69	60	53	79	68	60	53	65	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	62	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

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UGR TABLE - CORRECTED

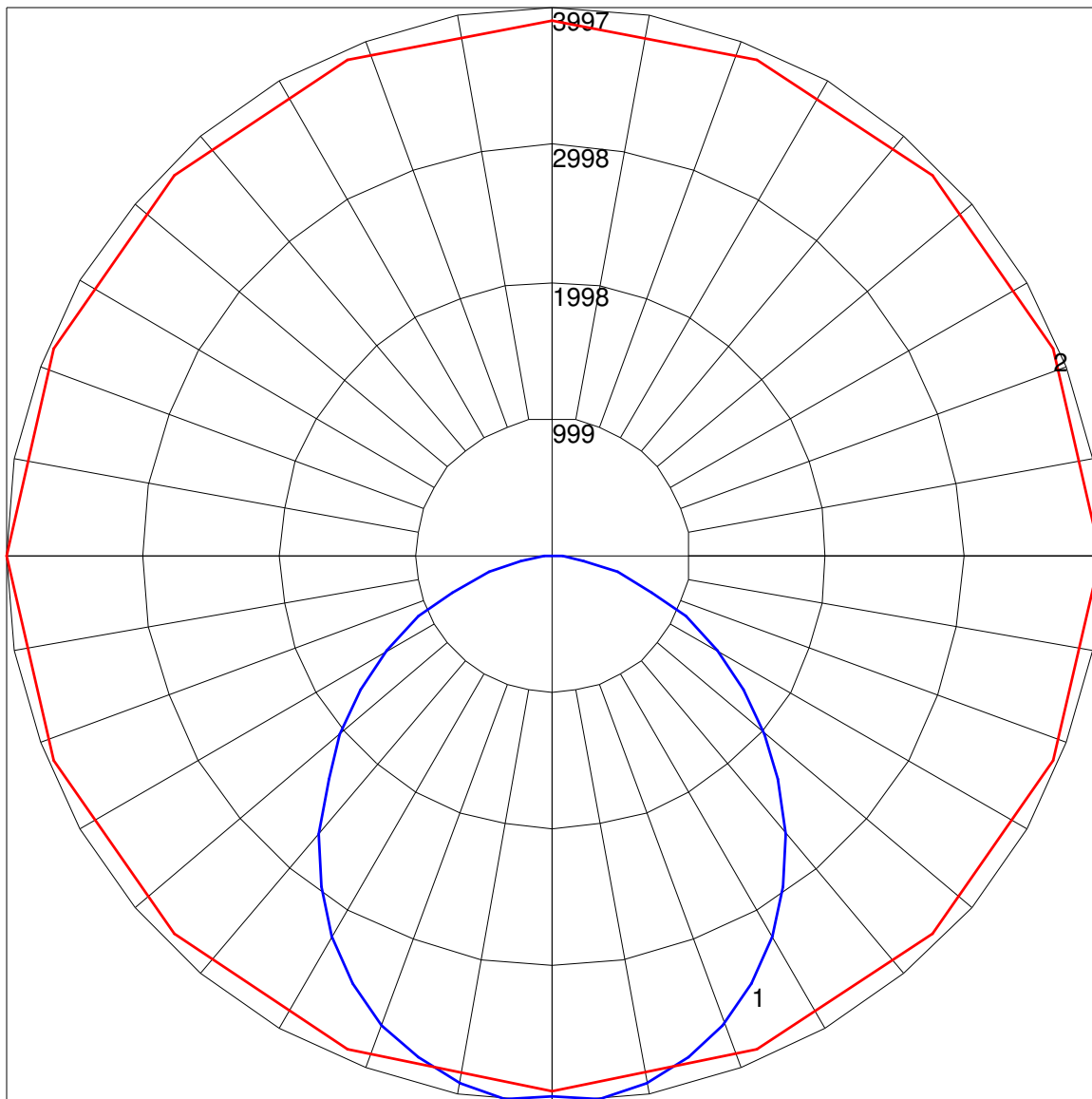
Reflectances

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	16.8	18.5	17.2	18.8	19.1	18.5	20.2	18.9	20.5	20.8
	3H	18.4	19.9	18.8	20.2	20.6	20.9	22.4	21.3	22.7	23.1
	4H	18.9	20.3	19.3	20.7	21.1	21.9	23.4	22.3	23.7	24.1
	6H	19.2	20.6	19.6	20.9	21.3	22.8	24.1	23.2	24.5	24.9
	8H	19.3	20.6	19.7	21.0	21.4	23.0	24.3	23.4	24.7	25.1
	12H	19.3	20.6	19.8	20.9	21.4	23.1	24.4	23.6	24.7	25.2
4H	2H	17.8	19.2	18.2	19.5	19.9	19.1	20.5	19.5	20.9	21.2
	3H	19.6	20.8	20.0	21.2	21.6	21.7	22.9	22.1	23.3	23.7
	4H	20.3	21.4	20.7	21.8	22.3	23.0	24.1	23.4	24.5	24.9
	6H	20.8	21.7	21.2	22.2	22.6	24.0	25.0	24.5	25.4	25.8
	8H	20.9	21.8	21.4	22.2	22.7	24.3	25.2	24.8	25.6	26.1
	12H	21.0	21.8	21.4	22.2	22.7	24.5	25.3	24.9	25.7	26.2
8H	4H	21.1	22.0	21.5	22.4	22.9	23.3	24.2	23.8	24.6	25.1
	6H	21.7	22.5	22.2	23.0	23.4	24.5	25.2	25.0	25.7	26.2
	8H	22.0	22.6	22.5	23.1	23.6	24.9	25.6	25.4	26.1	26.6
	12H	22.1	22.7	22.6	23.2	23.7	25.1	25.7	25.6	26.2	26.8
12H	4H	21.2	22.0	21.7	22.5	23.0	23.3	24.1	23.8	24.6	25.1
	6H	22.0	22.7	22.5	23.1	23.7	24.6	25.2	25.1	25.7	26.2
	8H	22.3	22.9	22.8	23.4	23.9	25.0	25.6	25.5	26.1	26.7

Maximum UGR = 26.8

POLAR GRAPH



Maximum Candela = 3996.998 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)