



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L27-840-AF-(L20)-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] 10-19-2023
 [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-L27-840-AF-(L20)-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	2075
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
Total Luminaire Watts	17.3
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	1794	1927	2075
55	1626	1896	2139
65	1433	1878	2318
75	1103	1990	2710
85	479	1617	1577

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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	690.477	690.477	690.477	690.477	690.477
5	689.883	686.909	686.314	683.935	685.719
10	677.988	675.014	677.393	675.014	676.799
15	660.146	658.957	662.525	663.715	665.499
20	631.599	635.762	641.115	647.062	648.252
25	598.889	607.216	614.947	624.463	626.842
30	563.801	573.316	584.616	598.889	603.647
35	525.143	533.470	547.148	568.558	573.316
40	481.134	489.460	508.491	531.091	538.822
45	433.555	441.287	465.671	489.460	501.354
50	377.651	387.762	418.687	443.071	460.318
55	318.773	333.047	371.704	398.467	419.282
60	262.869	278.927	323.531	357.431	377.651
65	206.965	224.212	271.195	316.989	334.831
70	152.250	170.686	223.022	272.979	291.416
75	97.535	120.135	176.039	225.401	239.675
80	48.173	75.530	121.324	165.929	161.171
85	14.273	29.142	48.173	81.478	46.983
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	251.96	N.A.	12.10
0-30	535.54	N.A.	25.80
0-40	879.38	N.A.	42.40
0-60	1568.27	N.A.	75.60
0-80	2017.32	N.A.	97.20
0-90	2074.91	N.A.	100.00
10-90	2009.71	N.A.	96.90
20-40	627.42	N.A.	30.20
20-50	986.53	N.A.	47.50
40-70	957.34	N.A.	46.10
60-80	449.06	N.A.	21.60
70-80	180.60	N.A.	8.70
80-90	57.59	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	2074.91	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	65.20
10-20	186.76
20-30	283.58
30-40	343.84
40-50	359.11
50-60	329.78
60-70	268.46
70-80	180.60
80-90	57.59
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

X=2H	Y=2H	13.4	15.1	13.8	15.4	15.7	15.0	16.7	15.4	17.0	17.3
	3H	15.0	16.6	15.4	16.9	17.2	17.6	19.1	17.9	19.4	19.8
	4H	15.6	17.0	16.0	17.4	17.8	18.7	20.2	19.1	20.5	20.9
	6H	15.9	17.3	16.3	17.6	18.0	19.7	21.0	20.1	21.4	21.8
	8H	16.0	17.3	16.4	17.7	18.1	20.0	21.3	20.4	21.7	22.1
	12H	16.0	17.3	16.5	17.6	18.1	20.1	21.4	20.6	21.8	22.2

UGR Viewed Endwise

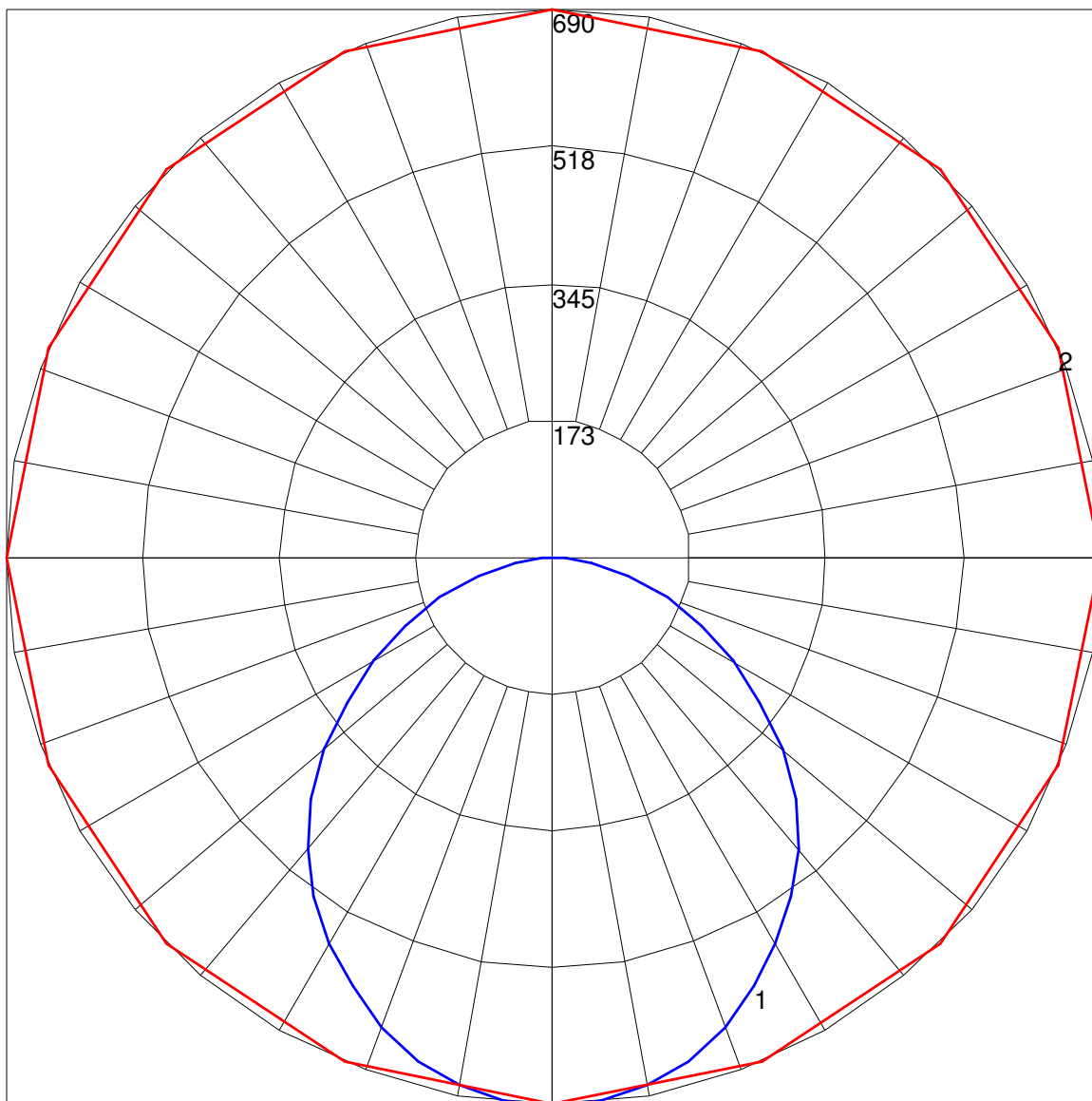
4H	2H	14.3	15.8	14.7	16.1	16.5	15.6	17.0	16.0	17.4	17.7
	3H	16.2	17.4	16.6	17.8	18.2	18.4	19.6	18.8	20.0	20.4
	4H	16.9	18.0	17.3	18.4	18.9	19.7	20.9	20.2	21.3	21.7
	6H	17.4	18.3	17.8	18.8	19.2	20.9	21.9	21.4	22.4	22.8
	8H	17.5	18.4	17.9	18.8	19.3	21.3	22.2	21.8	22.7	23.1
	12H	17.5	18.4	18.0	18.8	19.3	21.5	22.4	22.0	22.8	23.3

8H	4H	17.6	18.6	18.1	19.0	19.5	20.0	21.0	20.5	21.4	21.9
	6H	18.3	19.0	18.8	19.5	20.0	21.4	22.2	21.9	22.7	23.2
	8H	18.5	19.2	19.0	19.7	20.1	22.0	22.7	22.5	23.2	23.6
	12H	18.6	19.2	19.1	19.7	20.2	22.3	22.9	22.8	23.4	24.0

12H	4H	17.8	18.6	18.3	19.1	19.6	20.1	20.9	20.5	21.4	21.8
	6H	18.6	19.2	19.1	19.7	20.2	21.5	22.2	22.0	22.6	23.2
	8H	18.8	19.4	19.3	19.9	20.5	22.1	22.7	22.6	23.2	23.7

Maximum UGR = 24.0

POLAR GRAPH



Maximum Candela = 690.477 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.)