



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L27-840-AF-EMBSL10LST-DIM-UNV_EM MODE ONLY.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] 10-20-2023
 [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-EM10W-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	1320
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	10
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	1141	1226	1320
55	1035	1206	1361
65	912	1195	1475
75	702	1266	1724
85	305	1029	1004

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	439.243	439.243	439.243	439.243	439.243
5	438.865	436.973	436.595	435.082	436.217
10	431.298	429.407	430.920	429.407	430.542
15	419.948	419.192	421.462	422.218	423.353
20	401.788	404.437	407.842	411.625	412.382
25	380.980	386.277	391.195	397.248	398.762
30	358.659	364.712	371.900	380.980	384.007
35	334.067	339.364	348.065	361.685	364.712
40	306.071	311.367	323.474	337.850	342.769
45	275.804	280.722	296.234	311.367	318.934
50	240.241	246.672	266.346	281.857	292.829
55	202.786	211.866	236.457	253.482	266.724
60	167.223	177.438	205.813	227.377	240.241
65	131.660	142.631	172.519	201.651	213.001
70	96.853	108.581	141.874	173.654	185.383
75	62.046	76.423	111.986	143.388	152.468
80	30.645	48.048	77.180	105.555	102.528
85	9.080	18.538	30.645	51.831	29.888
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	160.28	N.A.	12.10
0-30	340.68	N.A.	25.80
0-40	559.41	N.A.	42.40
0-60	997.64	N.A.	75.60
0-80	1283.31	N.A.	97.20
0-90	1319.94	N.A.	100.00
10-90	1278.47	N.A.	96.90
20-40	399.13	N.A.	30.20
20-50	627.57	N.A.	47.50
40-70	609.01	N.A.	46.10
60-80	285.67	N.A.	21.60
70-80	114.89	N.A.	8.70
80-90	36.63	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	1319.94	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	41.47
10-20	118.81
20-30	180.40
30-40	218.73
40-50	228.44
50-60	209.79
60-70	170.78
70-80	114.89
80-90	36.63
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	11.9	13.6	12.3	13.9	14.2	13.5	15.2	13.9	15.5	15.8
	3H	13.5	15.1	13.9	15.4	15.7	16.1	17.6	16.4	17.9	18.3
	4H	14.1	15.5	14.5	15.9	16.2	17.2	18.7	17.6	19.0	19.4
	6H	14.4	15.8	14.8	16.1	16.5	18.2	19.5	18.6	19.9	20.3
	8H	14.5	15.8	14.9	16.2	16.6	18.5	19.8	18.9	20.2	20.6
	12H	14.5	15.8	15.0	16.1	16.6	18.6	19.9	19.1	20.3	20.7

UGR Viewed Endwise

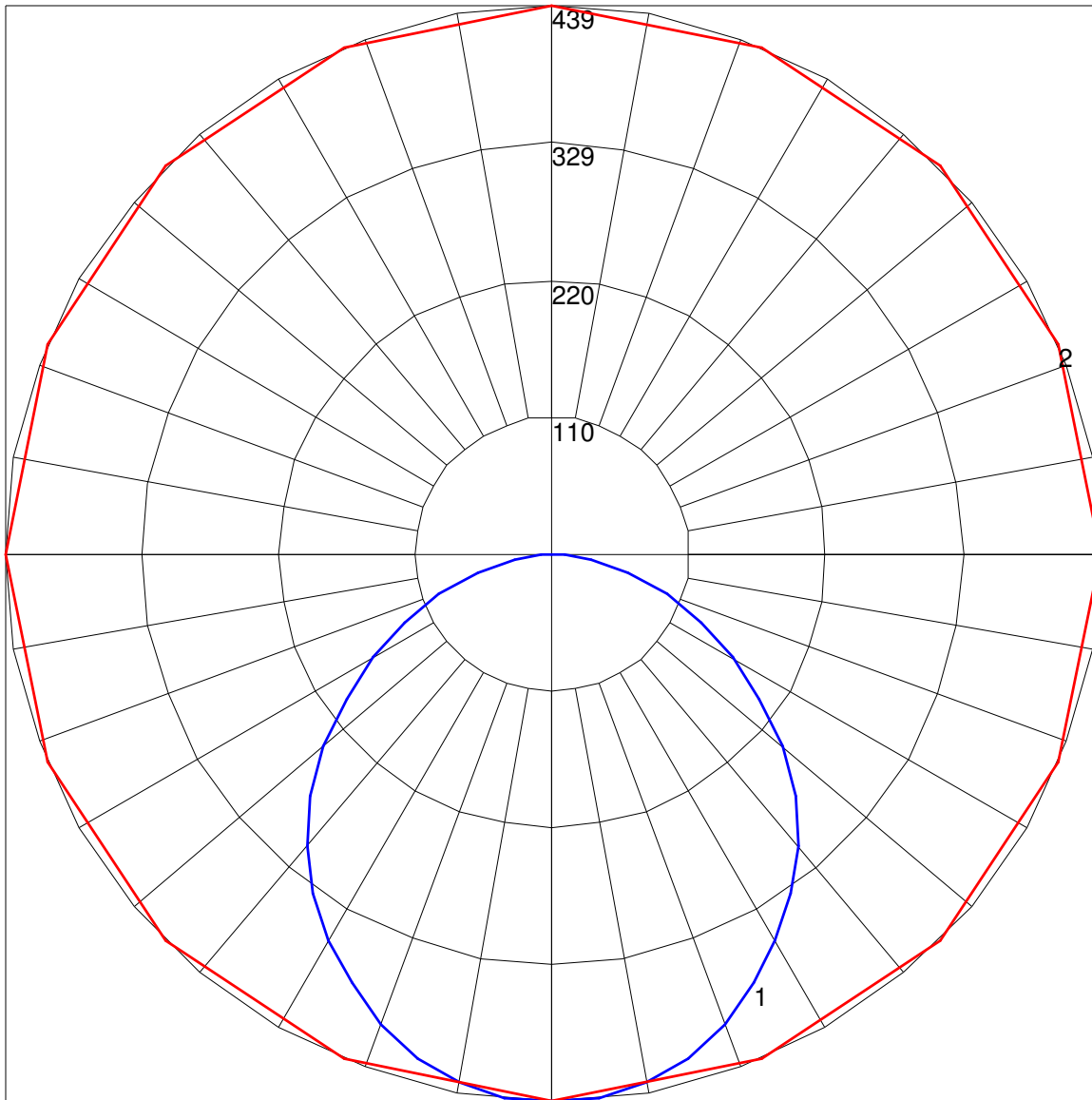
4H	2H	12.8	14.3	13.2	14.6	15.0	14.1	15.5	14.5	15.9	16.2
	3H	14.7	15.9	15.1	16.3	16.7	16.9	18.1	17.3	18.5	18.9
	4H	15.4	16.5	15.8	16.9	17.3	18.2	19.4	18.7	19.8	20.2
	6H	15.9	16.8	16.3	17.3	17.7	19.4	20.4	19.9	20.8	21.3
	8H	16.0	16.9	16.4	17.3	17.8	19.8	20.7	20.3	21.2	21.6
	12H	16.0	16.9	16.5	17.3	17.8	20.0	20.9	20.5	21.3	21.8
8H	4H	16.1	17.0	16.6	17.5	18.0	18.5	19.5	19.0	19.9	20.4
	6H	16.8	17.5	17.3	18.0	18.5	19.9	20.7	20.4	21.2	21.7
	8H	17.0	17.7	17.5	18.2	18.6	20.5	21.1	21.0	21.7	22.1
	12H	17.1	17.7	17.6	18.2	18.7	20.8	21.4	21.3	21.9	22.5
12H	4H	16.3	17.1	16.8	17.6	18.1	18.6	19.4	19.0	19.9	20.3
	6H	17.0	17.7	17.6	18.2	18.7	20.0	20.7	20.5	21.1	21.7
	8H	17.3	17.9	17.8	18.4	19.0	20.6	21.2	21.1	21.7	22.2

Maximum UGR = 22.5

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POLAR GRAPH



Maximum Candela = 439.243 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.)