



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L31-8TW-AF-POE PR_4000K.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] 11-04-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2x2' RECESSED LED LUMINAIRE
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS
 [LUMCAT] LT-22-P31-8TW-AF-POE PR 4000KCCT
 [LAMPCAT] HLM 80 CRI TUNABLE WHITE CCT
 [_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	3233
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	25
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	2796	3003	3233
55	2534	2955	3333
65	2233	2926	3612
75	1718	3101	4222
85	747	2520	2458

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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	1075.813	1075.813	1075.813	1075.813	1075.813
5	1074.886	1070.253	1069.326	1065.620	1068.400
10	1056.354	1051.721	1055.427	1051.721	1054.500
15	1028.555	1026.702	1032.261	1034.115	1036.895
20	984.077	990.563	998.903	1008.169	1010.022
25	933.112	946.085	958.131	972.957	976.664
30	878.441	893.267	910.873	933.112	940.525
35	818.211	831.184	852.496	885.854	893.267
40	749.640	762.613	792.265	827.477	839.523
45	675.510	687.557	725.548	762.613	781.146
50	588.408	604.160	652.345	690.336	717.209
55	496.672	518.911	579.141	620.839	653.271
60	409.569	434.588	504.085	556.902	588.408
65	322.466	349.338	422.541	493.892	521.690
70	237.216	265.942	347.485	425.321	454.047
75	151.967	187.178	274.281	351.191	373.430
80	75.057	117.682	189.032	258.529	251.116
85	22.239	45.405	75.057	126.948	73.203
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	392.57	N.A.	12.10
0-30	834.41	N.A.	25.80
0-40	1370.14	N.A.	42.40
0-60	2443.47	N.A.	75.60
0-80	3143.13	N.A.	97.20
0-90	3232.86	N.A.	100.00
10-90	3131.28	N.A.	96.90
20-40	977.57	N.A.	30.20
20-50	1537.08	N.A.	47.50
40-70	1491.61	N.A.	46.10
60-80	699.66	N.A.	21.60
70-80	281.39	N.A.	8.70
80-90	89.73	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	3232.86	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	101.58
10-20	290.99
20-30	441.83
30-40	535.73
40-50	559.51
50-60	513.82
60-70	418.28
70-80	281.39
80-90	89.73
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	15.0	16.7	15.4	17.0	17.3	16.6	18.3	17.0	18.6	18.9
	3H	16.6	18.2	17.0	18.5	18.8	19.2	20.7	19.5	21.0	21.4
	4H	17.2	18.6	17.6	19.0	19.4	20.3	21.8	20.7	22.1	22.5
	6H	17.5	18.9	17.9	19.2	19.6	21.3	22.6	21.7	23.0	23.4
	8H	17.6	18.9	18.0	19.3	19.7	21.6	22.9	22.0	23.3	23.7
	12H	17.6	18.9	18.1	19.2	19.7	21.7	23.0	22.2	23.4	23.8

UGR Viewed Endwise

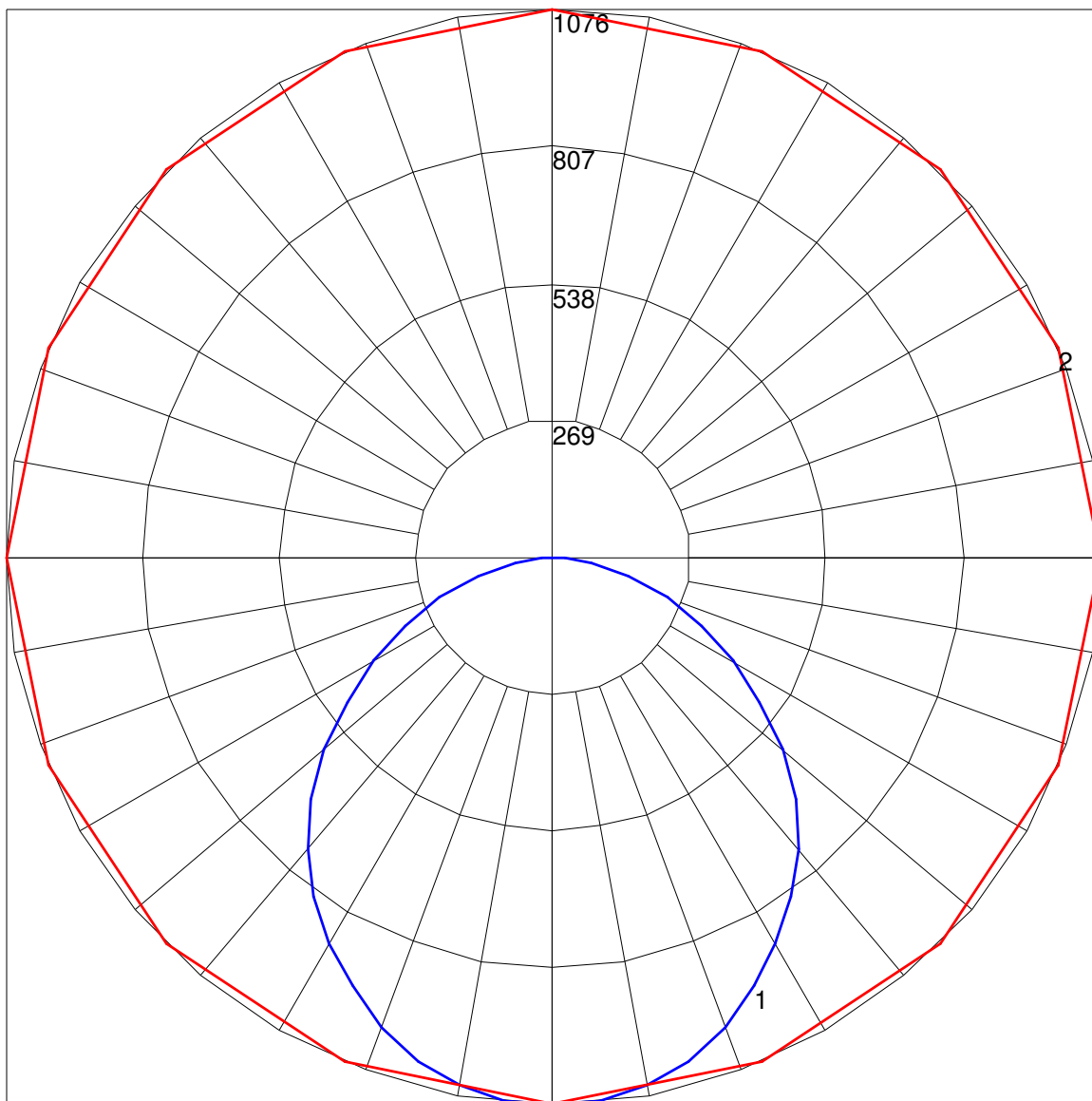
4H	2H	15.9	17.4	16.3	17.7	18.1	17.2	18.6	17.6	19.0	19.3
	3H	17.8	19.0	18.2	19.4	19.8	20.0	21.2	20.4	21.6	22.0
	4H	18.5	19.6	18.9	20.0	20.5	21.3	22.5	21.8	22.9	23.3
	6H	19.0	19.9	19.4	20.4	20.8	22.5	23.5	23.0	24.0	24.4
	8H	19.1	20.0	19.5	20.4	20.9	22.9	23.8	23.4	24.3	24.7
	12H	19.1	20.0	19.6	20.4	20.9	23.1	24.0	23.6	24.4	24.9

8H	4H	19.2	20.2	19.7	20.6	21.1	21.6	22.6	22.1	23.0	23.5
	6H	19.9	20.6	20.4	21.1	21.6	23.0	23.8	23.5	24.3	24.8
	8H	20.1	20.8	20.6	21.3	21.7	23.6	24.3	24.1	24.8	25.2
	12H	20.2	20.8	20.7	21.3	21.8	23.9	24.5	24.4	25.0	25.6

12H	4H	19.4	20.2	19.9	20.7	21.2	21.7	22.5	22.1	23.0	23.4
	6H	20.1	20.8	20.7	21.3	21.8	23.1	23.8	23.6	24.2	24.8
	8H	20.4	21.0	20.9	21.5	22.1	23.7	24.3	24.2	24.8	25.3

Maximum UGR = 25.6

POLAR GRAPH



Maximum Candela = 1075.813 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.)