



IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-P31-8TW-AF-POE-ELN2-POE-PR_4000K_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] 11-16-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2x2' RECESSED LED LUMINAIRE
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS
 [MORE] POWER OVER ETHERNET READY LUMINAIRE
 [LUMCAT] LT-22-P31-8TW-AF-POE-ELN2-POE PR 4000K EM MODE ONLY
 [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	1034
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	8
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	894	960	1034
55	810	945	1066
65	714	936	1155
75	550	992	1350
85	239	806	786

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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	344.074	344.074	344.074	344.074	344.074
5	343.777	342.296	341.999	340.814	341.703
10	337.850	336.368	337.554	336.368	337.258
15	328.959	328.367	330.145	330.738	331.627
20	314.734	316.809	319.476	322.440	323.032
25	298.434	302.583	306.436	311.178	312.363
30	280.949	285.691	291.322	298.434	300.805
35	261.686	265.835	272.651	283.320	285.691
40	239.755	243.904	253.388	264.649	268.502
45	216.046	219.899	232.050	243.904	249.831
50	188.189	193.227	208.637	220.788	229.383
55	158.849	165.962	185.225	198.561	208.934
60	130.991	138.993	161.220	178.112	188.189
65	103.133	111.728	135.140	157.960	166.851
70	75.868	85.055	111.135	136.029	145.216
75	48.603	59.865	87.723	112.320	119.433
80	24.005	37.638	60.457	82.684	80.314
85	7.113	14.522	24.005	40.601	23.412
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	125.56	N.A.	12.10
0-30	266.87	N.A.	25.80
0-40	438.21	N.A.	42.40
0-60	781.49	N.A.	75.60
0-80	1005.26	N.A.	97.20
0-90	1033.96	N.A.	100.00
10-90	1001.47	N.A.	96.90
20-40	312.65	N.A.	30.20
20-50	491.60	N.A.	47.50
40-70	477.06	N.A.	46.10
60-80	223.77	N.A.	21.60
70-80	90.00	N.A.	8.70
80-90	28.70	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	1033.96	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	32.49
10-20	93.07
20-30	141.31
30-40	171.34
40-50	178.95
50-60	164.33
60-70	133.78
70-80	90.00
80-90	28.70
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	11.0	12.7	11.4	13.0	13.3	12.6	14.3	13.0	14.6	14.9
	3H	12.6	14.2	13.0	14.5	14.8	15.2	16.7	15.5	17.0	17.4
	4H	13.2	14.6	13.6	15.0	15.3	16.3	17.8	16.7	18.1	18.5
	6H	13.5	14.9	13.9	15.2	15.6	17.3	18.6	17.7	19.0	19.4
	8H	13.6	14.9	14.0	15.3	15.7	17.6	18.9	18.0	19.3	19.7
	12H	13.6	14.9	14.1	15.2	15.7	17.7	19.0	18.2	19.4	19.8

UGR Viewed Endwise

4H	2H	11.9	13.4	12.3	13.7	14.1	13.2	14.6	13.6	15.0	15.3
	3H	13.8	15.0	14.2	15.4	15.8	16.0	17.2	16.4	17.6	18.0
	4H	14.5	15.6	14.9	16.0	16.4	17.3	18.5	17.8	18.9	19.3
	6H	15.0	15.9	15.4	16.4	16.8	18.5	19.5	19.0	19.9	20.4
	8H	15.1	16.0	15.5	16.4	16.9	18.9	19.8	19.4	20.3	20.7
	12H	15.1	16.0	15.6	16.4	16.9	19.1	20.0	19.6	20.4	20.9

8H	4H	15.2	16.1	15.7	16.6	17.1	17.6	18.6	18.1	19.0	19.5
	6H	15.9	16.6	16.4	17.1	17.6	19.0	19.8	19.5	20.3	20.8
	8H	16.1	16.8	16.6	17.3	17.7	19.6	20.2	20.1	20.8	21.2
	12H	16.2	16.8	16.7	17.3	17.8	19.9	20.5	20.4	21.0	21.6

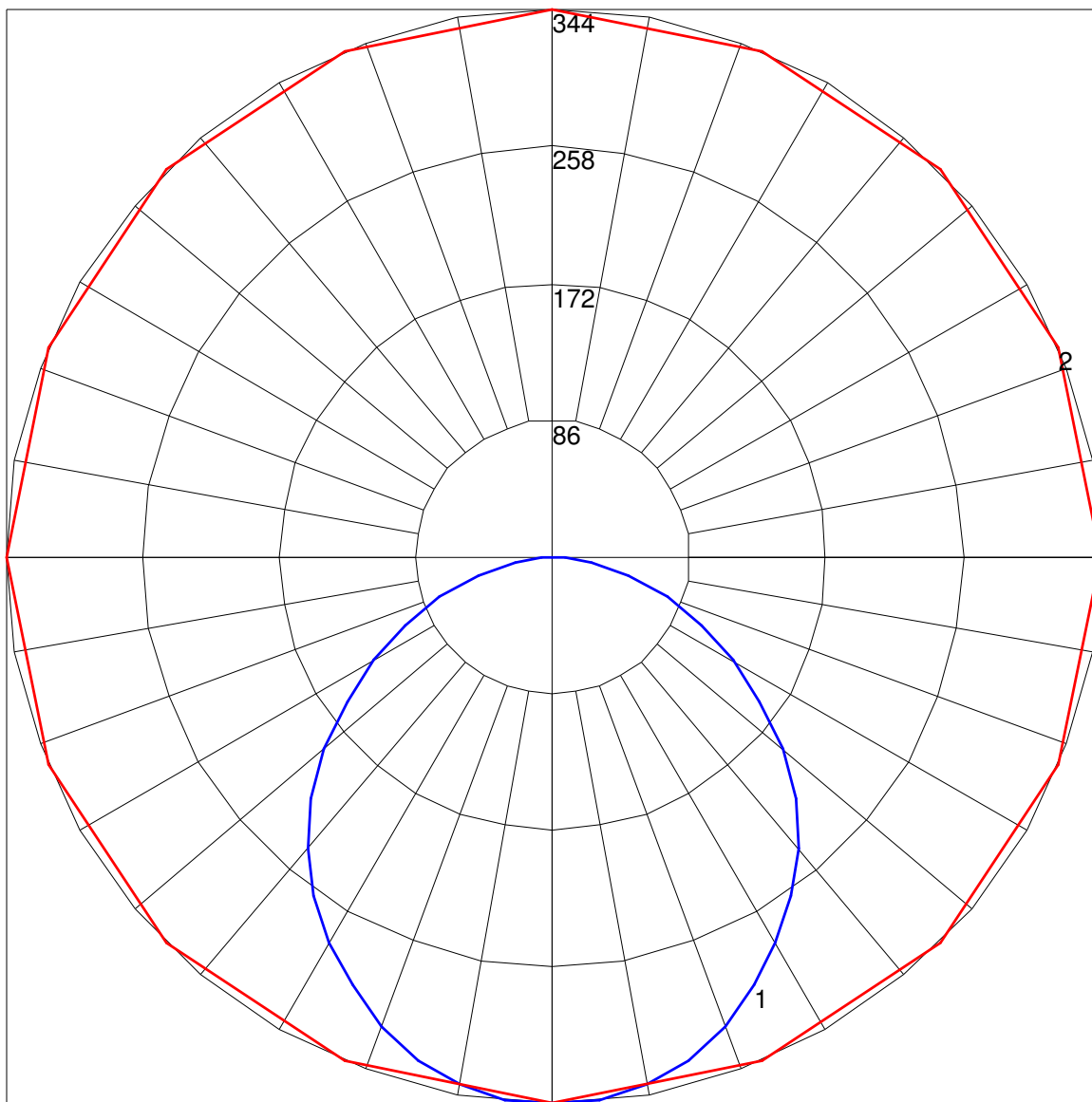
12H	4H	15.4	16.2	15.9	16.7	17.2	17.7	18.5	18.1	19.0	19.4
	6H	16.1	16.8	16.7	17.3	17.8	19.1	19.8	19.6	20.2	20.8
	8H	16.4	17.0	16.9	17.5	18.1	19.7	20.3	20.2	20.8	21.3

Maximum UGR = 21.6

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POLAR GRAPH



Maximum Candela = 344.074 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.)