



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L27-835-AF-(L20)-EM10W-DIM-UNV(EM MODE)\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 20169.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 11-03-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO. 64836  
 [LUMINAIRE] 2x2' LED TROFFER  
 [MORE] WITH FROSTED ACRYLIC LENS  
 [LUMCAT] LT-22-L27-835-AF-(L20)-EM10W-DIM-UNV (EM MODE)  
 [LAMPCAT] HLM 80 CRI, 3500K CCT  
 [SEARCH\_SOURCETYPE] LED  
 [SEARCH\_APPLICATION] INDOOR, CLASSROOM, COMMERCIAL, EDUCATIONAL, OFFICE, DIRECT  
 [SEARCH\_MOUNTING] RECESSED

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1174
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
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)	1.38
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	992	1089	1168
55	907	1067	1206
65	810	1063	1296
75	615	1120	1492
85	300	954	764

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	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
<b>0</b>	391.875	391.875	391.875	391.875	391.875
<b>5</b>	392.687	389.844	389.438	388.626	389.032
<b>10</b>	386.189	383.753	383.347	383.753	384.159
<b>15</b>	375.225	374.007	375.225	376.443	376.443
<b>20</b>	359.794	359.794	363.855	366.697	366.291
<b>25</b>	341.114	342.738	349.642	353.702	354.109
<b>30</b>	320.809	323.652	331.774	339.895	339.895
<b>35</b>	297.256	301.723	311.875	321.215	321.622
<b>40</b>	269.236	276.952	288.728	301.723	303.348
<b>45</b>	239.592	249.338	263.145	280.201	282.231
<b>50</b>	208.323	218.069	236.343	256.647	259.490
<b>55</b>	177.866	188.019	209.135	231.876	236.343
<b>60</b>	147.816	158.780	181.927	208.323	211.572
<b>65</b>	116.953	129.542	153.501	182.740	187.206
<b>70</b>	84.060	99.085	125.075	157.156	162.029
<b>75</b>	54.416	70.253	99.085	129.948	131.979
<b>80</b>	28.832	43.045	68.629	91.776	86.497
<b>85</b>	8.934	16.244	28.426	31.269	22.741
<b>90</b>	0.000	0.000	0.000	0.000	0.000

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : LT-22-L27-835-AF-(L20)-EM10W-DIM-UNV(EM MODE)\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	142.95	N.A.	12.20
0-30	303.63	N.A.	25.90
0-40	498.26	N.A.	42.40
0-60	888.64	N.A.	75.70
0-80	1143.85	N.A.	97.40
0-90	1174.1	N.A.	100.00
10-90	1137.08	N.A.	96.80
20-40	355.32	N.A.	30.30
20-50	558.45	N.A.	47.60
40-70	543.26	N.A.	46.30
60-80	255.20	N.A.	21.70
70-80	102.33	N.A.	8.70
80-90	30.25	N.A.	2.60
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	1174.1	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	37.02
10-20	105.93
20-30	160.69
30-40	194.63
40-50	203.13
50-60	187.25
60-70	152.88
70-80	102.33
80-90	30.25
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	97	93	96	93	90	92	90	87	89	87	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	72	77	73	70	68
3	89	78	69	63	86	76	68	62	73	67	61	70	65	60	68	63	59	57
4	81	69	60	53	79	67	59	52	65	58	52	63	56	51	60	55	50	48
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	46	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	39	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	28	39	32	27	38	32	27	25
10	52	39	31	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	11.5	13.2	11.9	13.5	13.8	13.3	15.0	13.6	15.3	15.6
	3H	13.2	14.7	13.5	15.0	15.4	15.7	17.3	16.1	17.6	17.9
	4H	13.7	15.1	14.1	15.5	15.9	16.9	18.3	17.3	18.6	19.0
	6H	14.1	15.4	14.5	15.8	16.2	17.8	19.1	18.2	19.5	19.9
	8H	14.2	15.4	14.6	15.8	16.2	18.0	19.3	18.4	19.7	20.1
	12H	14.2	15.4	14.6	15.8	16.2	18.1	19.4	18.6	19.7	20.2

### UGR Viewed Endwise

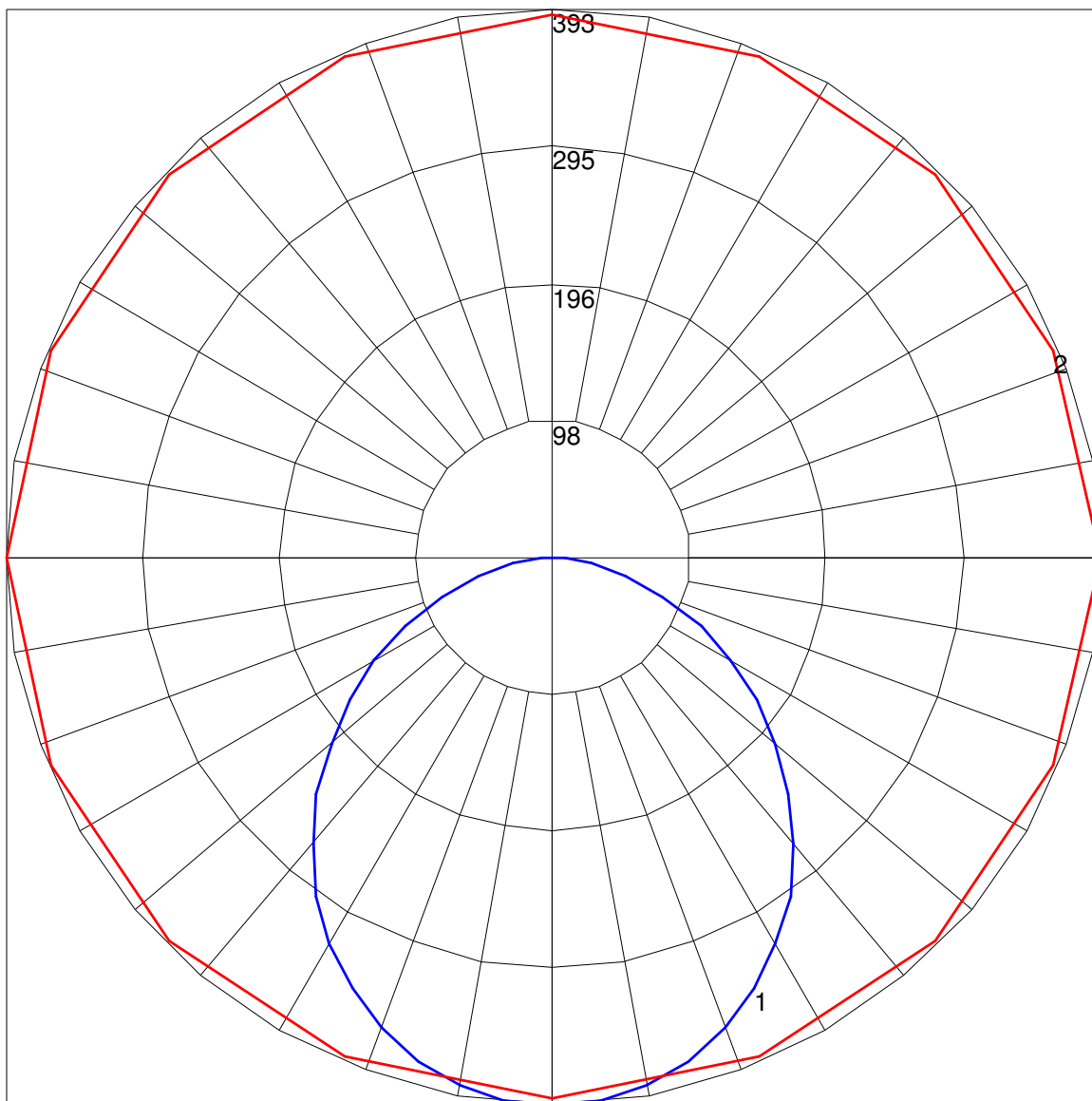
4H	2H	12.4	13.9	12.8	14.2	14.6	13.8	15.3	14.2	15.6	16.0
	3H	14.4	15.6	14.8	16.0	16.4	16.6	17.8	17.0	18.2	18.6
	4H	15.1	16.2	15.5	16.6	17.0	17.9	19.0	18.3	19.4	19.9
	6H	15.5	16.5	16.0	16.9	17.4	19.0	20.0	19.5	20.4	20.9
	8H	15.6	16.6	16.1	17.0	17.5	19.4	20.3	19.8	20.7	21.2
	12H	15.7	16.5	16.2	17.0	17.5	19.5	20.3	20.0	20.8	21.3
8H	4H	15.8	16.7	16.2	17.1	17.6	18.2	19.1	18.6	19.5	20.0
	6H	16.4	17.2	16.9	17.7	18.2	19.5	20.3	20.0	20.8	21.2
	8H	16.6	17.3	17.1	17.8	18.3	20.0	20.6	20.5	21.1	21.6
	12H	16.7	17.4	17.3	17.8	18.4	20.2	20.8	20.7	21.3	21.8
12H	4H	16.0	16.8	16.4	17.2	17.7	18.2	19.0	18.7	19.5	20.0
	6H	16.7	17.4	17.2	17.8	18.4	19.6	20.3	20.1	20.7	21.2
	8H	17.0	17.6	17.5	18.0	18.6	20.1	20.7	20.6	21.2	21.7

Maximum UGR = 21.8

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## POLAR GRAPH



Maximum Candela = 392.687 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.)