

IES INDOOR REPORT

PHOTOMETRIC FILENAME : GA-4-L90-830-N-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20801.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 09-07-2023
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' LED STRIP AISLE LUMINAIRE
[MORE] WHITE REFLECTOR w/.375"DIA ACRYLIC ROD OPTIC
[LUMCAT] GA-4-L90-830-N-DIM-UNV
[LAMPCAT] HLM 80 CRI 3000K CCT
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_MOUNTING] SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8575
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	75.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.42
Spacing Criterion (90-270)	0.56
Spacing Criterion (Diagonal)	0.72
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.03 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	60680	5829	3702
55	45086	2807	2479
65	27996	2268	2268
75	14060	3240	3824
85	3514	6546	7489

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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	8272.441	8272.441	8272.441	8272.441	8272.441
5	8515.696	8261.710	8045.285	7764.469	7530.157
10	8490.655	8036.341	7392.432	6719.905	6331.771
15	8465.614	7651.785	6287.055	5229.972	4754.194
20	8410.166	6925.598	4784.601	3491.417	3094.340
25	8297.482	5972.256	3267.838	2105.225	1790.425
30	8072.114	4734.519	1890.588	1171.557	1028.466
35	7666.094	3523.613	1117.897	736.918	679.682
40	6988.201	2287.665	763.748	556.266	491.875
45	6031.280	1493.511	611.714	450.736	395.289
50	4884.765	1055.295	472.200	357.727	313.011
55	3647.029	835.293	245.043	234.311	221.791
60	2595.311	477.566	164.555	168.132	173.498
65	1677.741	248.620	152.034	160.977	157.400
70	1003.425	193.173	144.880	166.343	166.343
75	522.282	168.132	144.880	180.652	180.652
80	221.791	152.034	152.034	164.555	166.343
85	46.505	134.148	137.725	169.920	177.075
90	7.155	55.448	60.814	96.586	105.530
95	3.577	1.789	12.520	62.602	66.180
100	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	2529.72	N.A.	29.50
0-30	4418.02	N.A.	51.50
0-40	5929.06	N.A.	69.10
0-60	7789.14	N.A.	90.80
0-80	8402.27	N.A.	98.00
0-90	8541.22	N.A.	99.60
10-90	7795.01	N.A.	90.90
20-40	3399.34	N.A.	39.60
20-50	4524.48	N.A.	52.80
40-70	2245.94	N.A.	26.20
60-80	613.14	N.A.	7.20
70-80	227.27	N.A.	2.70
80-90	138.94	N.A.	1.60
90-110	33.67	N.A.	0.40
90-120	33.67	N.A.	0.40
90-130	33.67	N.A.	0.40
90-150	33.67	N.A.	0.40
90-180	33.67	N.A.	0.40
110-180	0.00	N.A.	0.00
0-180	8574.89	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	746.21
10-20	1783.52
20-30	1888.3
30-40	1511.04
40-50	1125.14
50-60	734.94
60-70	385.87
70-80	227.27
80-90	138.94
90-100	33.67
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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	73	69	66	64
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	53
7	75	64	57	52	74	64	57	52	62	56	52	61	55	51	60	55	51	49
8	71	60	53	48	70	59	53	48	58	52	48	57	52	47	56	51	47	46
9	67	56	49	45	66	56	49	45	55	49	44	54	48	44	53	48	44	42
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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UGR TABLE - CORRECTED

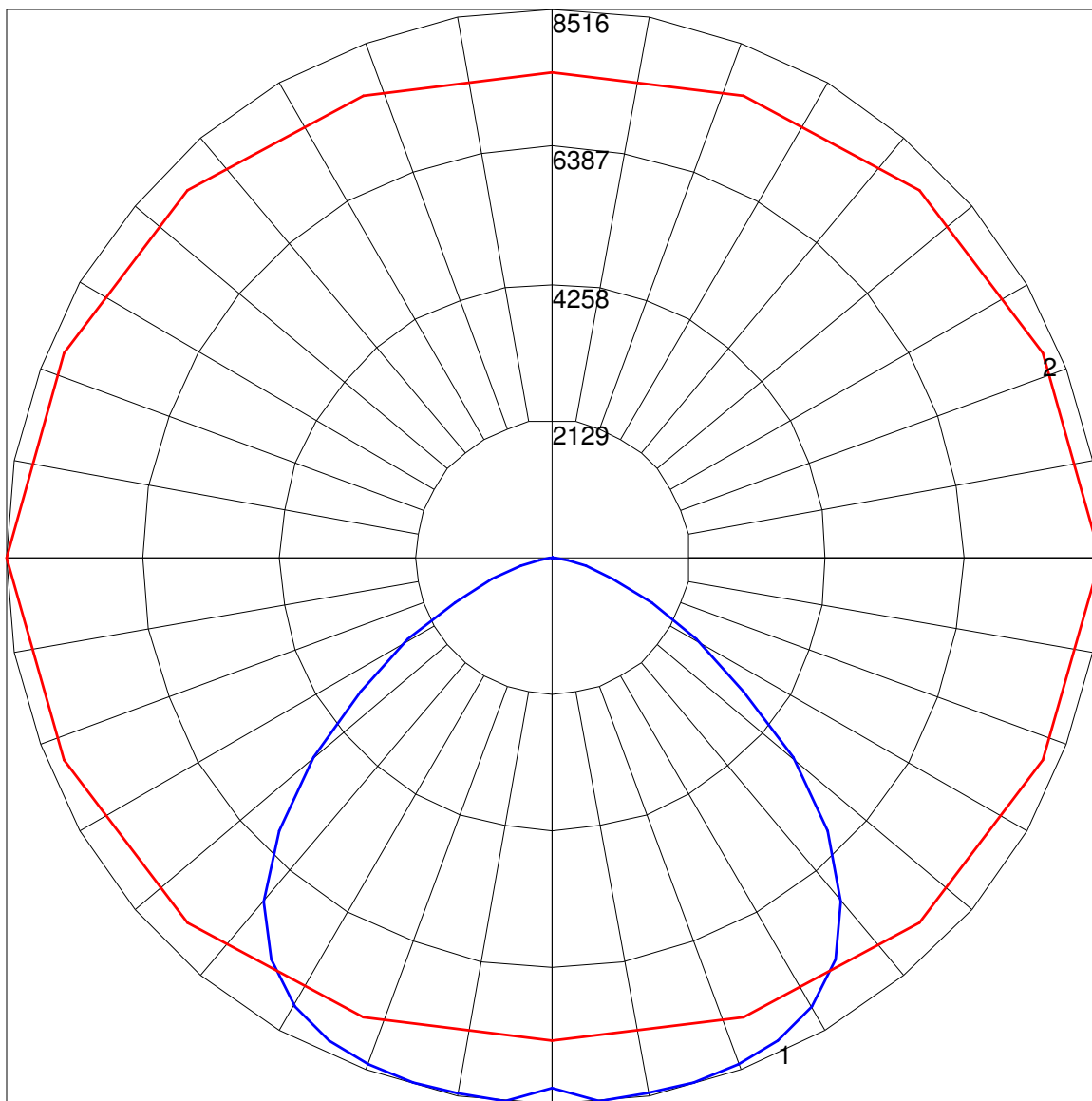
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	20.5	21.8	20.9	22.1	22.5	8.9	10.2	9.3	10.6	10.9
	3H	22.3	23.4	22.7	23.8	24.2	11.7	12.8	12.1	13.2	13.6
	4H	22.8	23.9	23.2	24.2	24.7	13.6	14.7	14.0	15.1	15.5
	6H	23.1	24.1	23.5	24.5	24.9	15.5	16.5	16.0	16.9	17.4
	8H	23.1	24.1	23.6	24.5	24.9	16.6	17.6	17.1	18.0	18.4
	12H	23.1	24.0	23.6	24.4	24.9	17.9	18.8	18.4	19.2	19.7
4H	2H	20.3	21.4	20.7	21.7	22.1	9.5	10.6	9.9	10.9	11.4
	3H	22.1	23.0	22.5	23.4	23.8	12.7	13.5	13.1	14.0	14.4
	4H	22.6	23.5	23.1	23.9	24.4	14.8	15.6	15.3	16.1	16.5
	6H	23.0	23.7	23.5	24.2	24.7	17.0	17.7	17.5	18.1	18.6
	8H	23.1	23.8	23.6	24.2	24.7	18.2	18.8	18.7	19.3	19.8
	12H	23.2	23.7	23.7	24.2	24.7	19.6	20.2	20.1	20.7	21.2
8H	4H	22.6	23.2	23.1	23.7	24.2	15.4	16.0	15.9	16.5	17.0
	6H	23.0	23.6	23.6	24.1	24.6	17.8	18.3	18.3	18.8	19.3
	8H	23.2	23.7	23.7	24.2	24.7	19.1	19.6	19.7	20.2	20.7
	12H	23.3	23.7	23.9	24.3	24.8	20.8	21.2	21.3	21.7	22.3
12H	4H	22.6	23.1	23.1	23.7	24.1	15.5	16.1	16.0	16.6	17.1
	6H	23.0	23.5	23.6	24.0	24.6	18.0	18.5	18.5	19.0	19.5
	8H	23.3	23.7	23.8	24.2	24.8	19.5	19.9	20.0	20.4	21.0

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 8515.696 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.)