

IES INDOOR REPORT

PHOTOMETRIC FILENAME : GA-4-L90-835-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-L90-835-N-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K 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	8664
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
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	61312	5890	3740
55	45555	2836	2505
65	28287	2292	2292
75	14207	3274	3864
85	3551	6614	7567

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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	8358.610	8358.610	8358.610	8358.610	8358.610
5	8604.398	8347.766	8129.087	7845.346	7608.594
10	8579.096	8120.050	7469.434	6789.902	6397.725
15	8553.794	7731.488	6352.543	5284.449	4803.716
20	8497.769	6997.738	4834.439	3527.785	3126.572
25	8383.911	6034.464	3301.877	2127.153	1809.074
30	8156.196	4783.836	1910.281	1183.760	1039.178
35	7745.946	3560.316	1129.542	744.594	686.761
40	7060.992	2311.494	771.703	562.060	496.998
45	6094.104	1509.068	618.085	455.431	399.406
50	4935.646	1066.288	477.118	361.453	316.272
55	3685.017	843.994	247.596	236.752	224.101
60	2622.344	482.540	166.269	169.883	175.305
65	1695.216	251.210	153.618	162.654	159.039
70	1013.877	195.185	146.389	168.076	168.076
75	527.722	169.883	146.389	182.534	182.534
80	224.101	153.618	153.618	166.269	168.076
85	46.989	135.545	139.160	171.690	178.919
90	7.229	56.025	61.447	97.592	106.629
95	3.615	1.807	12.651	63.254	66.869
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	2556.07	N.A.	29.50
0-30	4464.04	N.A.	51.50
0-40	5990.82	N.A.	69.10
0-60	7870.27	N.A.	90.80
0-80	8489.79	N.A.	98.00
0-90	8630.19	N.A.	99.60
10-90	7876.21	N.A.	90.90
20-40	3434.75	N.A.	39.60
20-50	4571.6	N.A.	52.80
40-70	2269.34	N.A.	26.20
60-80	619.52	N.A.	7.20
70-80	229.64	N.A.	2.70
80-90	140.39	N.A.	1.60
90-110	34.02	N.A.	0.40
90-120	34.02	N.A.	0.40
90-130	34.02	N.A.	0.40
90-150	34.02	N.A.	0.40
90-180	34.02	N.A.	0.40
110-180	0.00	N.A.	0.00
0-180	8664.21	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	753.98
10-20	1802.1
20-30	1907.97
30-40	1526.78
40-50	1136.86
50-60	742.59
60-70	389.89
70-80	229.64
80-90	140.39
90-100	34.02
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

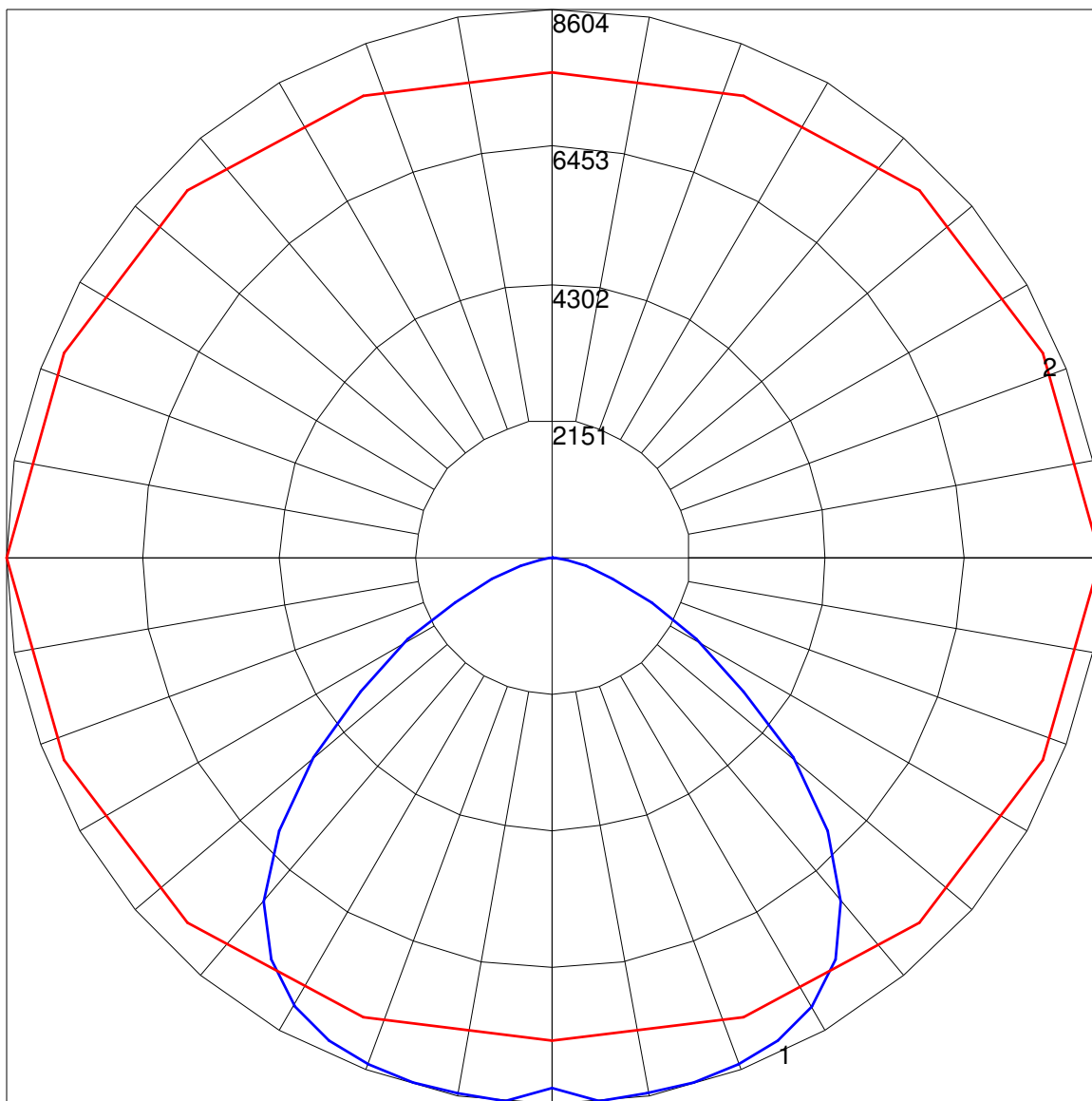
Reflectances

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	23.6	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	18.9	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 = 8604.398 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.)