



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-835-HIAFR-(L60)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 19227.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 02-21-2022

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4' SUSPENDED ENCLOSED & GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DIFFUSER

[LUMCAT] 96-4-L62-835-HIAFR-(L60)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6008
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	42.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.30
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.23 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.18 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9054	7139	6951
55	7703	6074	5999
65	5646	4935	5327
75	3462	4161	4594
85	1276	3266	3919

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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	2122.487	2122.487	2122.487	2122.487	2122.487
5	2141.097	2113.672	2099.959	2090.165	2087.226
10	2112.692	2078.411	2056.863	2049.028	2041.192
15	2059.802	2020.623	1988.301	1969.691	1958.917
20	1983.404	1943.246	1895.253	1856.074	1855.095
25	1893.294	1850.197	1779.676	1729.724	1714.053
30	1779.676	1724.827	1629.819	1615.127	1617.086
35	1639.614	1583.785	1493.675	1537.750	1561.257
40	1479.962	1429.030	1384.955	1433.928	1453.517
45	1311.495	1263.502	1270.358	1281.132	1308.557
50	1122.460	1076.425	1117.562	1136.172	1153.802
55	920.691	897.184	958.890	996.109	1018.637
60	715.005	739.491	797.279	862.903	895.225
65	511.277	583.757	656.237	751.245	778.670
70	349.667	429.003	542.620	641.545	658.196
75	203.727	298.735	432.921	524.990	542.620
80	95.987	198.830	324.201	412.352	429.003
85	32.322	126.350	235.070	321.262	338.893
90	13.712	76.398	171.405	240.947	258.577
95	10.774	52.891	137.124	190.015	206.666
100	9.795	32.322	112.638	158.672	167.487
105	7.836	19.589	85.213	127.330	136.145
110	4.897	5.877	59.747	98.925	108.720
115	2.938	2.938	39.178	73.459	85.213
120	0.000	0.000	19.589	52.891	63.665
125	0.000	0.000	5.877	32.322	42.117
130	0.000	0.000	0.000	16.651	23.507
135	0.000	0.000	0.000	3.918	8.815
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	762.12	N.A.	12.70
0-30	1587.18	N.A.	26.40
0-40	2559.11	N.A.	42.60
0-60	4402.17	N.A.	73.30
0-80	5492.05	N.A.	91.40
0-90	5734.62	N.A.	95.40
10-90	5534.92	N.A.	92.10
20-40	1796.98	N.A.	29.90
20-50	2783.36	N.A.	46.30
40-70	2498.95	N.A.	41.60
60-80	1089.88	N.A.	18.10
70-80	434.00	N.A.	7.20
80-90	242.57	N.A.	4.00
90-110	217.00	N.A.	3.60
90-120	257.16	N.A.	4.30
90-130	271.38	N.A.	4.50
90-150	273.62	N.A.	4.60
90-180	273.62	N.A.	4.60
110-180	56.62	N.A.	0.90
0-180	6008.24	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	199.70
10-20	562.42
20-30	825.06
30-40	971.93
40-50	986.38
50-60	856.68
60-70	655.88
70-80	434.00
80-90	242.57
90-100	136.08
100-110	80.92
110-120	40.16
120-130	14.22
130-140	2.24
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	118	118	118	118	115	115	115	115	109	109	109	103	103	103	98	98	98	95
1	107	102	97	93	104	99	95	91	94	90	87	89	86	84	85	83	81	78
2	97	89	82	76	94	86	80	74	82	77	72	78	73	70	74	71	67	65
3	89	78	69	63	86	76	68	62	72	66	60	69	63	59	66	61	57	55
4	81	69	60	53	78	67	59	53	64	57	51	61	55	50	59	53	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	41
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	36
7	64	50	42	36	62	49	41	35	47	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	35	31	40	35	30	28
9	56	42	34	29	54	42	34	28	40	33	28	39	32	28	37	32	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	30	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	16.9	18.4	17.3	18.8	19.3	18.6	20.1	19.0	20.5	21.0
	3H	18.0	19.4	18.5	19.8	20.3	20.9	22.2	21.3	22.7	23.2
	4H	18.3	19.6	18.8	20.1	20.6	21.9	23.2	22.4	23.7	24.1
	6H	18.4	19.6	18.9	20.1	20.6	22.9	24.1	23.4	24.6	25.1
	8H	18.4	19.6	18.9	20.1	20.6	23.4	24.5	23.9	25.0	25.5
	12H	18.4	19.5	18.9	20.0	20.6	23.9	25.0	24.4	25.5	26.0

UGR Viewed Endwise

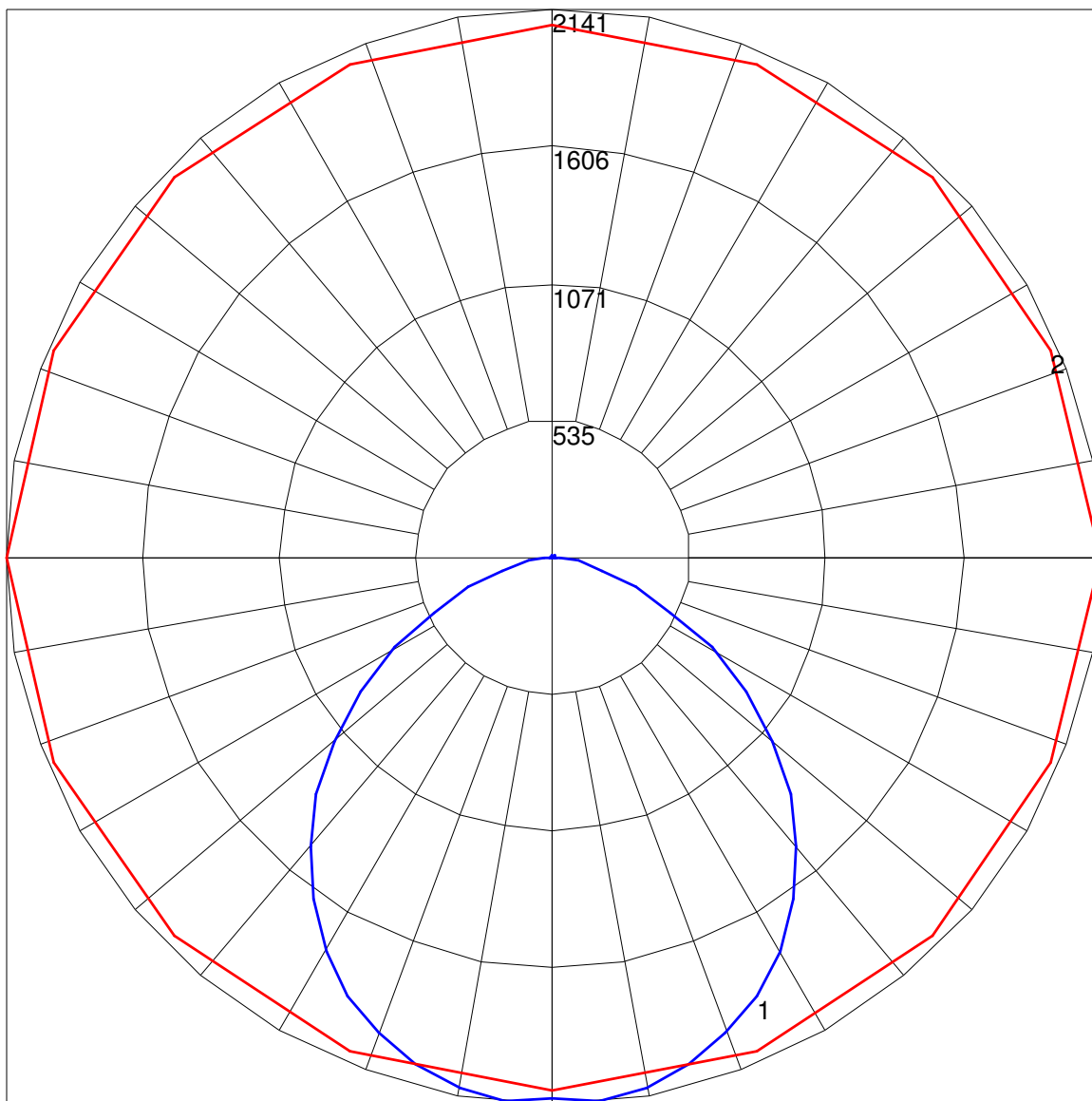
4H	2H	17.6	18.9	18.1	19.3	19.8	19.0	20.3	19.4	20.7	21.2
	3H	19.0	20.1	19.5	20.6	21.1	21.5	22.6	22.0	23.1	23.6
	4H	19.4	20.4	19.9	20.9	21.5	22.7	23.7	23.2	24.2	24.7
	6H	19.6	20.5	20.2	21.1	21.6	23.9	24.7	24.4	25.3	25.8
	8H	19.7	20.5	20.2	21.1	21.6	24.4	25.3	25.0	25.8	26.4
	12H	19.7	20.5	20.3	21.0	21.6	25.1	25.8	25.6	26.4	27.0

8H	4H	20.0	20.8	20.5	21.4	22.0	22.9	23.7	23.4	24.2	24.8
	6H	20.4	21.1	21.0	21.7	22.3	24.2	24.9	24.8	25.5	26.1
	8H	20.5	21.2	21.1	21.7	22.3	24.9	25.5	25.5	26.1	26.7
	12H	20.6	21.2	21.2	21.7	22.4	25.7	26.3	26.3	26.8	27.5

12H	4H	20.2	20.9	20.7	21.5	22.1	22.9	23.6	23.4	24.2	24.8
	6H	20.7	21.3	21.2	21.8	22.5	24.2	24.9	24.8	25.4	26.1
	8H	20.9	21.4	21.4	22.0	22.6	25.0	25.5	25.6	26.1	26.8

Maximum UGR = 27.5

POLAR GRAPH



Maximum Candela = 2141.097 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.)