



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-835-HIAFR-(L30)-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] 12-05-2022

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4' ENCLOSED & GASKETED LED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LENS

[LUMCAT] 96-4-L40-835-HIAFR-(L30)-DIM-UNV

[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2943
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
Total Luminaire Watts	21.3
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	4435	3497	3405
55	3773	2975	2939
65	2766	2417	2609
75	1696	2038	2250
85	625	1600	1920

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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	1039.694	1039.694	1039.694	1039.694	1039.694
5	1048.810	1035.376	1028.659	1023.861	1022.421
10	1034.896	1018.103	1007.548	1003.710	999.871
15	1008.987	989.796	973.963	964.847	959.570
20	971.564	951.893	928.384	909.192	908.712
25	927.424	906.313	871.769	847.300	839.623
30	871.769	844.901	798.362	791.165	792.125
35	803.160	775.812	731.672	753.262	764.777
40	724.955	700.006	678.416	702.405	712.001
45	642.432	618.922	622.281	627.559	640.992
50	549.833	527.283	547.434	556.550	565.186
55	450.998	439.483	469.709	487.941	498.976
60	350.243	362.238	390.545	422.690	438.523
65	250.448	285.952	321.456	367.995	381.429
70	171.283	210.146	265.801	314.259	322.415
75	99.795	146.334	212.065	257.165	265.801
80	47.019	97.396	158.809	201.989	210.146
85	15.833	61.892	115.148	157.369	166.006
90	6.717	37.423	83.962	118.027	126.663
95	5.278	25.908	67.170	93.078	101.235
100	4.798	15.833	55.175	77.725	82.043
105	3.838	9.596	41.741	62.372	66.690
110	2.399	2.879	29.267	48.458	53.256
115	1.439	1.439	19.191	35.984	41.741
120	0.000	0.000	9.596	25.908	31.186
125	0.000	0.000	2.879	15.833	20.631
130	0.000	0.000	0.000	8.156	11.515
135	0.000	0.000	0.000	1.919	4.318
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	373.32	N.A.	12.70
0-30	777.48	N.A.	26.40
0-40	1253.57	N.A.	42.60
0-60	2156.39	N.A.	73.30
0-80	2690.27	N.A.	91.40
0-90	2809.09	N.A.	95.40
10-90	2711.26	N.A.	92.10
20-40	880.25	N.A.	29.90
20-50	1363.42	N.A.	46.30
40-70	1224.1	N.A.	41.60
60-80	533.88	N.A.	18.10
70-80	212.59	N.A.	7.20
80-90	118.82	N.A.	4.00
90-110	106.30	N.A.	3.60
90-120	125.97	N.A.	4.30
90-130	132.93	N.A.	4.50
90-150	134.03	N.A.	4.60
90-180	134.03	N.A.	4.60
110-180	27.73	N.A.	0.90
0-180	2943.12	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	97.82
10-20	275.50
20-30	404.15
30-40	476.10
40-50	483.18
50-60	419.64
60-70	321.28
70-80	212.59
80-90	118.82
90-100	66.66
100-110	39.64
110-120	19.67
120-130	6.96
130-140	1.10
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

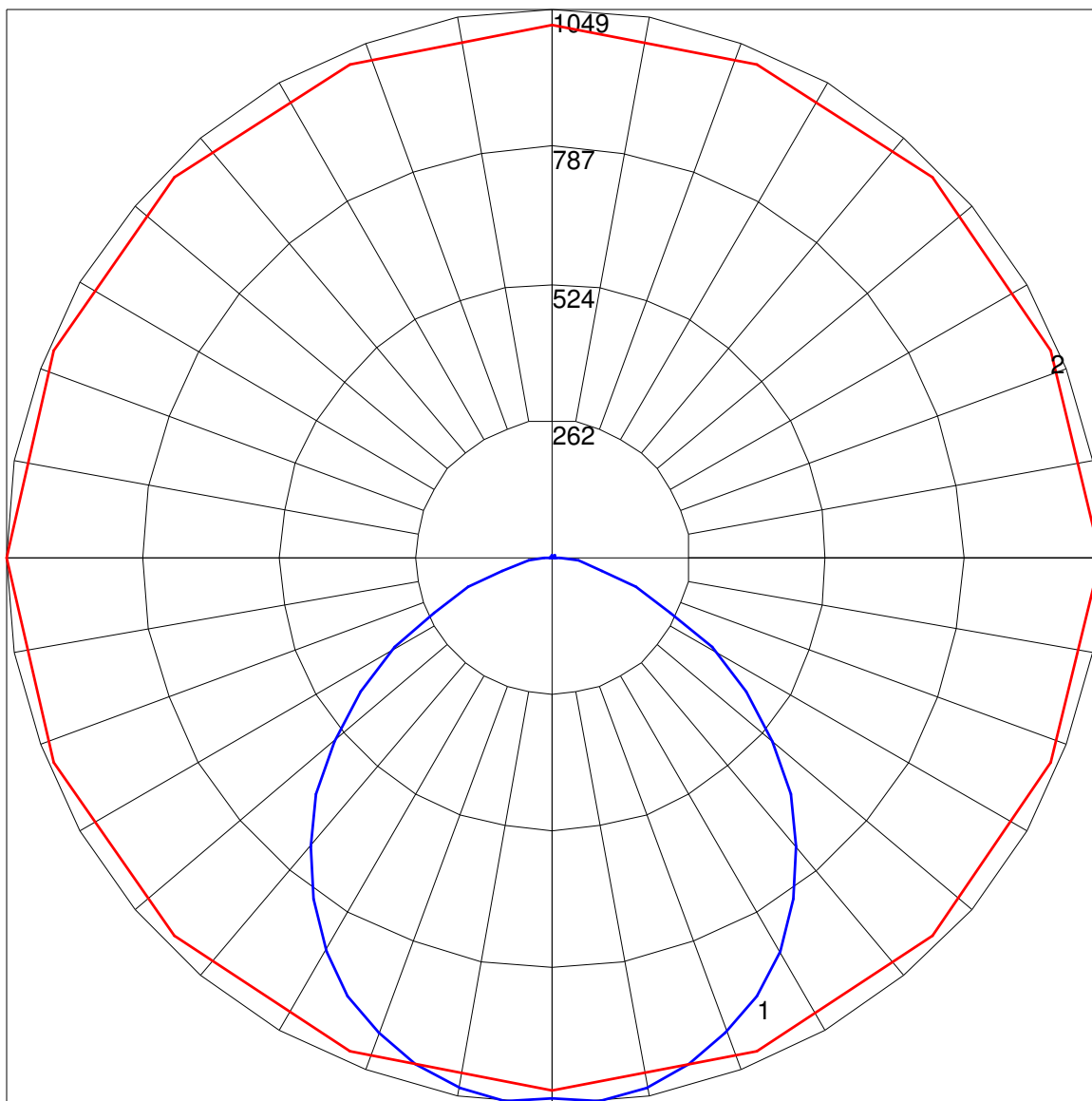
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UGR TABLE - CORRECTED

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					UGR Viewed Endwise				
X=2H	Y=2H	14.5	16.0	14.9	16.4	16.9	16.2	17.7	16.6	18.1	18.6
	3H	15.6	17.0	16.1	17.4	17.9	18.5	19.8	18.9	20.3	20.8
	4H	15.9	17.2	16.4	17.7	18.2	19.5	20.8	20.0	21.3	21.7
	6H	16.0	17.2	16.5	17.7	18.2	20.5	21.7	21.0	22.2	22.7
	8H	16.0	17.2	16.5	17.7	18.2	21.0	22.1	21.5	22.6	23.1
	12H	16.0	17.1	16.5	17.6	18.2	21.5	22.6	22.0	23.1	23.6
4H	2H	15.2	16.5	15.7	16.9	17.4	16.6	17.9	17.0	18.3	18.8
	3H	16.6	17.7	17.1	18.2	18.7	19.1	20.2	19.6	20.7	21.2
	4H	17.0	18.0	17.5	18.5	19.1	20.3	21.3	20.8	21.8	22.3
	6H	17.2	18.1	17.8	18.7	19.2	21.5	22.3	22.0	22.9	23.4
	8H	17.3	18.1	17.8	18.7	19.2	22.0	22.9	22.6	23.4	24.0
	12H	17.3	18.1	17.9	18.6	19.2	22.7	23.4	23.2	24.0	24.6
8H	4H	17.6	18.4	18.1	19.0	19.6	20.5	21.3	21.0	21.8	22.4
	6H	18.0	18.7	18.6	19.3	19.9	21.8	22.5	22.4	23.1	23.7
	8H	18.1	18.8	18.7	19.3	19.9	22.5	23.1	23.1	23.7	24.3
	12H	18.2	18.8	18.8	19.3	20.0	23.3	23.9	23.9	24.4	25.1
12H	4H	17.8	18.5	18.3	19.1	19.7	20.5	21.2	21.0	21.8	22.4
	6H	18.3	18.9	18.8	19.4	20.1	21.8	22.5	22.4	23.0	23.7
	8H	18.5	19.0	19.0	19.6	20.2	22.6	23.1	23.2	23.7	24.4

Maximum UGR = 25.1

POLAR GRAPH



Maximum Candela = 1048.81 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.)