



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-940-HIAFR-(L50)-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] 10-11-2021

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 4'SUSPENDED ENCLOSED & GASKETED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC LINEAR RIBBED DIFFUSER

[LUMCAT] 96-4-L62-940-HIAFR-(L50)-DIM-UNV

[LAMPCAT] HLM 90 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5034
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	35.2
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	7586	5981	5824
55	6454	5089	5027
65	4731	4135	4463
75	2901	3486	3849
85	1069	2737	3283

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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	1778.396	1778.396	1778.396	1778.396	1778.396
5	1793.988	1771.009	1759.520	1751.313	1748.851
10	1770.189	1741.465	1723.411	1716.845	1710.280
15	1725.873	1693.046	1665.964	1650.371	1641.343
20	1661.860	1628.213	1588.000	1555.173	1554.352
25	1586.358	1550.249	1491.160	1449.306	1436.175
30	1491.160	1445.203	1365.598	1353.288	1354.929
35	1373.804	1327.026	1251.524	1288.455	1308.151
40	1240.035	1197.360	1160.430	1201.463	1217.877
45	1098.879	1058.666	1064.411	1073.439	1096.417
50	940.490	901.918	936.386	951.979	966.751
55	771.431	751.735	803.438	834.623	853.499
60	599.090	619.607	668.027	723.012	750.094
65	428.391	489.120	549.850	629.455	652.434
70	292.980	359.454	454.652	537.540	551.491
75	170.700	250.305	362.737	439.880	454.652
80	80.426	166.596	271.642	345.503	359.454
85	27.082	105.867	196.961	269.180	283.952
90	11.489	64.012	143.618	201.885	216.657
95	9.027	44.316	114.894	159.210	173.162
100	8.207	27.082	94.377	132.949	140.335
105	6.565	16.413	71.398	106.687	114.073
110	4.103	4.924	50.061	82.888	91.095
115	2.462	2.462	32.827	61.550	71.398
120	0.000	0.000	16.413	44.316	53.344
125	0.000	0.000	4.924	27.082	35.289
130	0.000	0.000	0.000	13.951	19.696
135	0.000	0.000	0.000	3.283	7.386
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	638.57	N.A.	12.70
0-30	1329.87	N.A.	26.40
0-40	2144.23	N.A.	42.60
0-60	3688.51	N.A.	73.30
0-80	4601.7	N.A.	91.40
0-90	4804.94	N.A.	95.40
10-90	4637.62	N.A.	92.10
20-40	1505.66	N.A.	29.90
20-50	2332.13	N.A.	46.30
40-70	2093.82	N.A.	41.60
60-80	913.19	N.A.	18.10
70-80	363.64	N.A.	7.20
80-90	203.24	N.A.	4.00
90-110	181.82	N.A.	3.60
90-120	215.47	N.A.	4.30
90-130	227.38	N.A.	4.50
90-150	229.26	N.A.	4.60
90-180	229.26	N.A.	4.60
110-180	47.44	N.A.	0.90
0-180	5034.2	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	167.32
10-20	471.25
20-30	691.30
30-40	814.36
40-50	826.47
50-60	717.80
60-70	549.55
70-80	363.64
80-90	203.24
90-100	114.02
100-110	67.80
110-120	33.65
120-130	11.91
130-140	1.88
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**

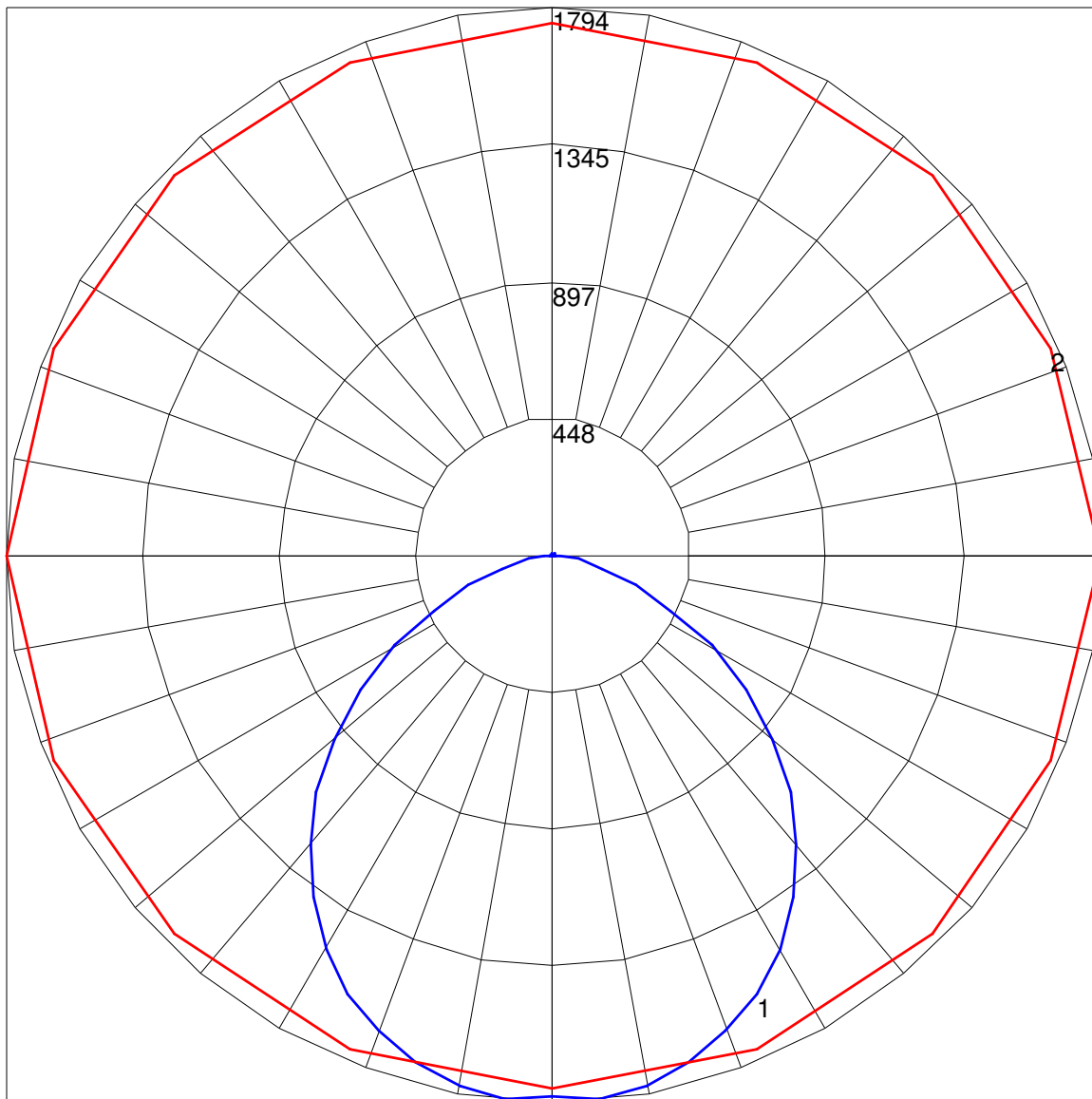
Reflectances

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	16.3	17.8	16.7	18.2	18.7	18.0	19.5	18.4	19.9	20.4
	3H	17.4	18.8	17.9	19.2	19.7	20.3	21.6	20.7	22.1	22.6
	4H	17.7	19.0	18.2	19.5	20.0	21.3	22.6	21.8	23.1	23.5
	6H	17.8	19.0	18.3	19.5	20.0	22.3	23.5	22.8	24.0	24.5
	8H	17.8	19.0	18.3	19.5	20.0	22.8	23.9	23.3	24.4	24.9
	12H	17.8	18.9	18.3	19.4	20.0	23.3	24.4	23.8	24.9	25.4
4H	2H	17.0	18.3	17.5	18.7	19.2	18.4	19.7	18.8	20.1	20.6
	3H	18.4	19.5	18.9	20.0	20.5	20.9	22.0	21.4	22.5	23.0
	4H	18.8	19.8	19.3	20.3	20.9	22.1	23.1	22.6	23.6	24.1
	6H	19.0	19.9	19.6	20.5	21.0	23.3	24.1	23.8	24.7	25.2
	8H	19.1	19.9	19.6	20.5	21.0	23.8	24.7	24.4	25.2	25.8
	12H	19.1	19.9	19.7	20.4	21.0	24.5	25.2	25.0	25.8	26.4
8H	4H	19.4	20.2	19.9	20.8	21.4	22.3	23.1	22.8	23.6	24.2
	6H	19.8	20.5	20.4	21.1	21.7	23.6	24.3	24.2	24.9	25.5
	8H	19.9	20.6	20.5	21.1	21.7	24.3	24.9	24.9	25.5	26.1
	12H	20.0	20.6	20.6	21.1	21.8	25.1	25.7	25.7	26.2	26.9
12H	4H	19.6	20.3	20.1	20.9	21.5	22.3	23.0	22.8	23.6	24.2
	6H	20.1	20.7	20.6	21.2	21.9	23.6	24.3	24.2	24.8	25.5
	8H	20.3	20.8	20.8	21.4	22.0	24.4	24.9	25.0	25.5	26.2

Maximum UGR = 26.9

POLAR GRAPH



Maximum Candela = 1793.988 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.)