



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-840-HIAFR-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20205.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 03-03-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4'ENCLOSED & GASKETED LUMINAIRE
 [MORE] WHITE FLAT REFL w/HIAFR RIBBED ACRYLIC DROP LENS
 [MORE] OT150/120-277/1A4 DIM-1-G2 #57452
 [LUMCAT] 96-4-L40-840-HIAFR-DIM-UNV
 [LAMPCAT] HLM2256_5630 REV A 10560223

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4086
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	136
Total Luminaire Watts	30
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.17 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6218	4943	4693
55	5138	4151	4189
65	4080	3434	3663
75	2622	2826	3125
85	1089	2304	2565

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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	1463.572	1463.572	1463.572	1463.572	1463.572
5	1492.637	1456.071	1446.695	1433.569	1427.944
10	1471.073	1431.694	1414.817	1395.128	1387.627
15	1432.632	1388.565	1367.938	1334.185	1326.684
20	1381.064	1332.310	1300.432	1264.804	1252.615
25	1318.246	1261.991	1209.486	1179.483	1170.107
30	1241.364	1183.234	1123.228	1114.790	1116.665
35	1150.418	1086.662	1045.409	1057.597	1057.597
40	1036.033	973.214	968.526	971.339	970.402
45	902.895	856.016	872.893	866.330	874.768
50	755.694	737.880	759.445	764.133	786.635
55	615.057	622.557	647.872	669.436	701.314
60	490.358	508.172	540.050	583.179	611.306
65	369.409	394.724	449.104	504.421	525.048
70	254.086	290.652	366.596	430.352	441.603
75	153.764	200.643	286.901	346.907	359.095
80	74.069	133.137	213.770	268.150	282.213
85	27.190	85.320	159.390	206.269	212.832
90	10.313	53.442	116.261	153.764	161.265
95	10.313	36.566	92.821	125.637	130.324
100	8.438	20.627	73.132	100.322	105.947
105	6.563	12.189	53.442	79.695	83.445
110	5.626	6.563	38.441	62.818	65.631
115	3.750	2.813	24.377	45.942	53.442
120	2.813	0.938	13.126	33.753	38.441
125	0.000	0.000	2.813	20.627	25.315
130	0.000	0.000	0.000	10.313	13.126
135	0.000	0.000	0.000	0.938	5.626
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	522.75	N.A.	12.80
0-30	1088.23	N.A.	26.60
0-40	1758.1	N.A.	43.00
0-60	3012.17	N.A.	73.70
0-80	3749.56	N.A.	91.80
0-90	3909.33	N.A.	95.70
10-90	3771.95	N.A.	92.30
20-40	1235.36	N.A.	30.20
20-50	1907.11	N.A.	46.70
40-70	1700.34	N.A.	41.60
60-80	737.39	N.A.	18.00
70-80	291.12	N.A.	7.10
80-90	159.77	N.A.	3.90
90-110	140.81	N.A.	3.40
90-120	166.67	N.A.	4.10
90-130	175.59	N.A.	4.30
90-150	176.81	N.A.	4.30
90-180	176.81	N.A.	4.30
110-180	36.00	N.A.	0.90
0-180	4086.13	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	137.38
10-20	385.37
20-30	565.49
30-40	669.87
40-50	671.76
50-60	582.31
60-70	446.27
70-80	291.12
80-90	159.77
90-100	89.45
100-110	51.35
110-120	25.86
120-130	8.92
130-140	1.22
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	96
1	107	102	97	93	104	99	95	91	94	91	88	89	87	84	85	83	81	78
2	97	89	82	76	94	86	80	75	82	77	72	78	74	70	75	71	68	65
3	89	78	70	63	86	76	68	62	72	66	61	69	64	59	66	61	57	55
4	81	69	60	54	79	68	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	61	52	46	58	51	45	55	49	44	53	48	43	41
6	69	56	47	40	67	55	46	40	52	45	39	50	44	39	48	43	38	36
7	64	51	42	36	62	50	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	36	31	41	35	30	28
9	56	42	34	29	54	42	34	29	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

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UGR TABLE - CORRECTED

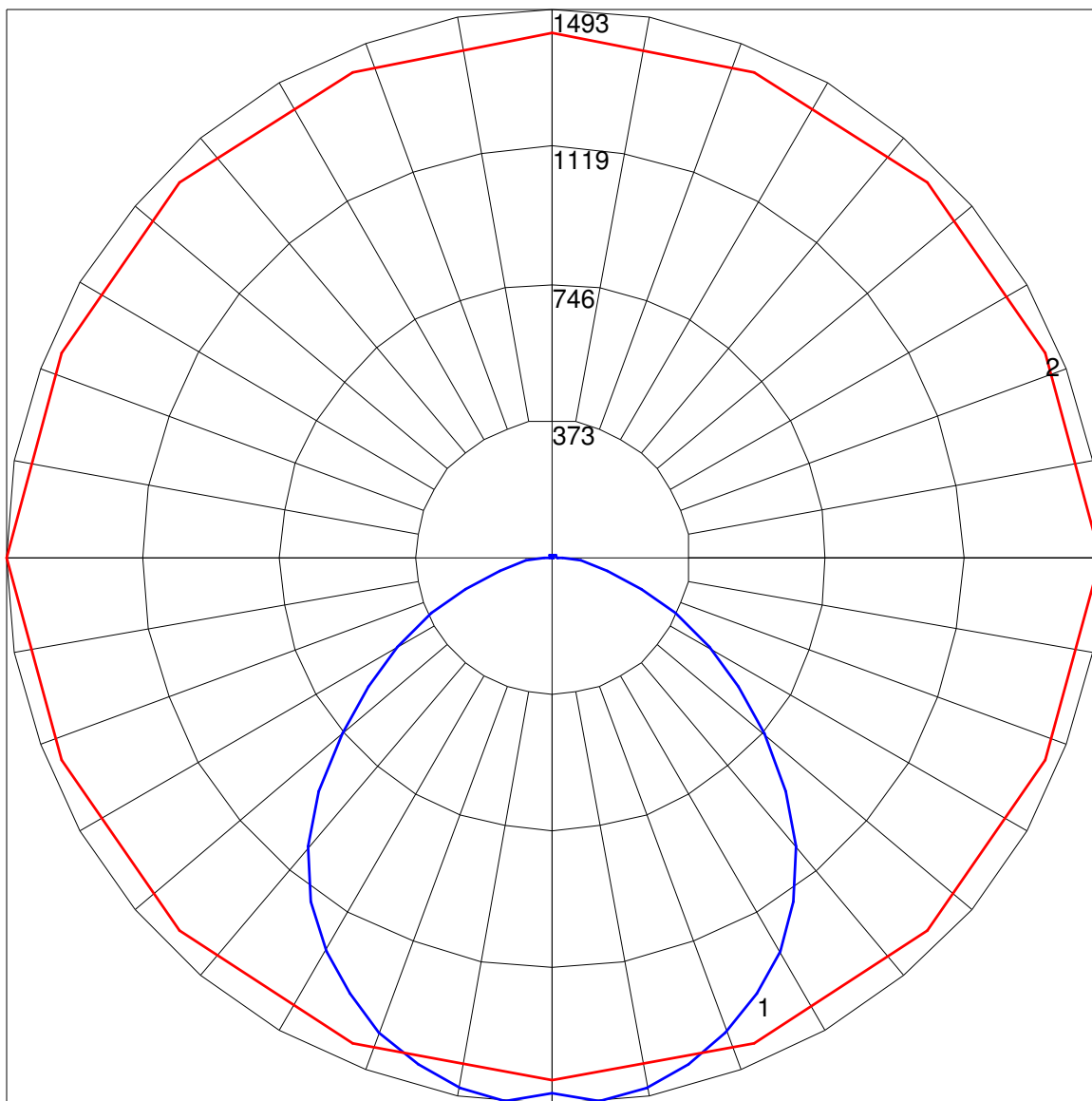
Reflectances

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	15.7	17.3	16.2	17.7	18.1	17.3	18.8	17.7	19.2	19.7
	3H	16.9	18.3	17.4	18.7	19.2	19.5	21.0	20.0	21.4	21.8
	4H	17.2	18.6	17.7	19.0	19.5	20.6	21.9	21.0	22.3	22.8
	6H	17.4	18.6	17.9	19.1	19.6	21.5	22.8	22.0	23.2	23.7
	8H	17.4	18.6	17.9	19.1	19.6	22.0	23.2	22.5	23.6	24.1
	12H	17.4	18.5	17.9	19.0	19.5	22.4	23.6	22.9	24.1	24.6
4H	2H	16.4	17.8	16.9	18.2	18.7	17.7	19.0	18.2	19.5	19.9
	3H	17.9	19.0	18.3	19.5	20.0	20.2	21.3	20.7	21.8	22.3
	4H	18.3	19.3	18.8	19.8	20.3	21.4	22.4	21.9	22.9	23.4
	6H	18.5	19.5	19.1	20.0	20.5	22.5	23.4	23.0	23.9	24.4
	8H	18.6	19.4	19.1	20.0	20.5	23.1	23.9	23.6	24.4	25.0
	12H	18.6	19.4	19.2	19.9	20.5	23.6	24.4	24.2	24.9	25.5
8H	4H	18.9	19.7	19.4	20.2	20.8	21.5	22.4	22.1	22.9	23.4
	6H	19.3	20.0	19.8	20.5	21.1	22.8	23.5	23.4	24.1	24.7
	8H	19.4	20.0	20.0	20.6	21.2	23.5	24.1	24.1	24.7	25.3
	12H	19.5	20.0	20.0	20.6	21.2	24.2	24.8	24.8	25.4	26.0
12H	4H	19.0	19.8	19.5	20.3	20.9	21.5	22.3	22.1	22.8	23.4
	6H	19.5	20.1	20.1	20.7	21.3	22.8	23.5	23.4	24.0	24.7
	8H	19.7	20.3	20.2	20.8	21.5	23.6	24.2	24.1	24.7	25.4

Maximum UGR = 26.0

POLAR GRAPH



Maximum Candela = 1492.637 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.)