



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-940-HIAFR-(L31)-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] 04-04-2024
 [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-L40-940-HIAFR-(L31)-DIM-UNV
 [LAMPCAT] HLM2256_5630 REV A 10560223

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2729
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	21.1
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	4153	3301	3134
55	3432	2773	2798
65	2725	2294	2447
75	1751	1887	2087
85	728	1539	1713

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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	977.506	977.506	977.506	977.506	977.506
5	996.918	972.496	966.234	957.467	953.710
10	982.515	956.215	944.943	931.793	926.783
15	956.841	927.409	913.633	891.089	886.080
20	922.400	889.837	868.546	844.750	836.610
25	880.444	842.872	807.804	787.766	781.504
30	829.095	790.270	750.193	744.557	745.810
35	768.353	725.771	698.218	706.359	706.359
40	691.956	650.001	646.869	648.748	648.122
45	603.035	571.725	582.997	578.613	584.249
50	504.721	492.823	507.226	510.357	525.386
55	410.790	415.800	432.707	447.110	468.401
60	327.505	339.403	360.694	389.499	408.285
65	246.725	263.632	299.952	336.898	350.675
70	169.701	194.123	244.846	287.428	294.942
75	102.698	134.008	191.619	231.696	239.836
80	49.470	88.921	142.775	179.095	188.488
85	18.160	56.985	106.455	137.765	142.148
90	6.888	35.694	77.649	102.698	107.707
95	6.888	24.422	61.994	83.911	87.042
100	5.636	13.777	48.844	67.004	70.761
105	4.383	8.141	35.694	53.227	55.732
110	3.757	4.383	25.674	41.956	43.834
115	2.505	1.879	16.281	30.684	35.694
120	1.879	0.626	8.767	22.543	25.674
125	0.000	0.000	1.879	13.777	16.908
130	0.000	0.000	0.000	6.888	8.767
135	0.000	0.000	0.000	0.626	3.757
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	349.14	N.A.	12.80
0-30	726.82	N.A.	26.60
0-40	1174.22	N.A.	43.00
0-60	2011.8	N.A.	73.70
0-80	2504.29	N.A.	91.80
0-90	2611.00	N.A.	95.70
10-90	2519.25	N.A.	92.30
20-40	825.08	N.A.	30.20
20-50	1273.74	N.A.	46.70
40-70	1135.64	N.A.	41.60
60-80	492.49	N.A.	18.00
70-80	194.43	N.A.	7.10
80-90	106.71	N.A.	3.90
90-110	94.04	N.A.	3.40
90-120	111.32	N.A.	4.10
90-130	117.27	N.A.	4.30
90-150	118.09	N.A.	4.30
90-180	118.09	N.A.	4.30
110-180	24.04	N.A.	0.90
0-180	2729.09	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	91.75
10-20	257.38
20-30	377.68
30-40	447.40
40-50	448.66
50-60	388.92
60-70	298.06
70-80	194.43
80-90	106.71
90-100	59.75
100-110	34.30
110-120	17.27
120-130	5.96
130-140	0.81
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

X=2H	Y=2H	14.3	15.9	14.8	16.3	16.7	15.9	17.4	16.3	17.8	18.3
	3H	15.5	16.9	16.0	17.3	17.8	18.1	19.6	18.6	20.0	20.4
	4H	15.8	17.2	16.3	17.6	18.1	19.2	20.5	19.6	20.9	21.4
	6H	16.0	17.2	16.5	17.7	18.2	20.1	21.4	20.6	21.8	22.3
	8H	16.0	17.2	16.5	17.7	18.1	20.6	21.8	21.1	22.2	22.7
	12H	16.0	17.1	16.5	17.6	18.1	21.0	22.2	21.5	22.7	23.2

UGR Viewed Endwise

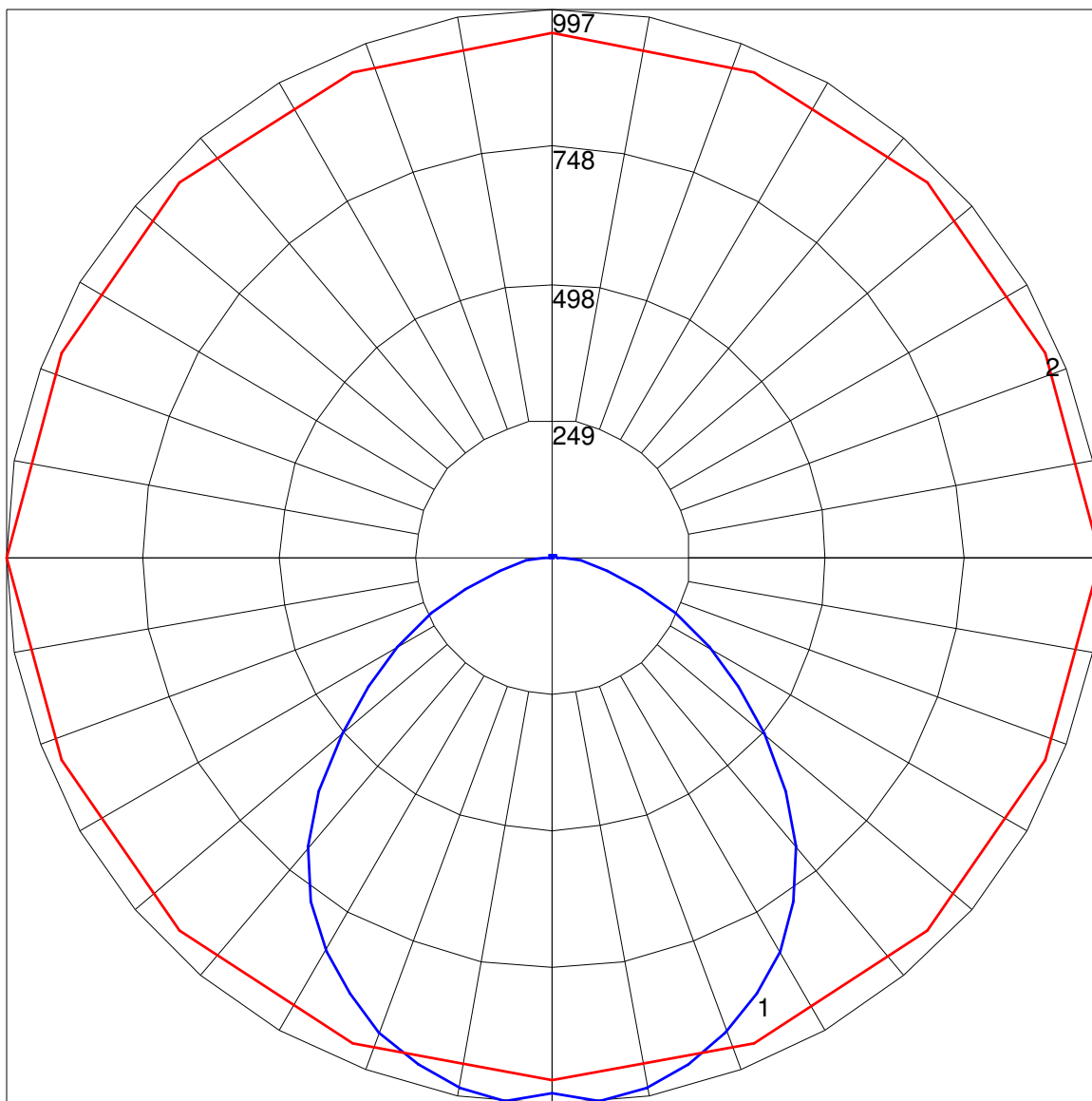
4H	2H	15.0	16.4	15.5	16.8	17.3	16.3	17.6	16.8	18.1	18.5
	3H	16.5	17.6	16.9	18.1	18.6	18.8	19.9	19.3	20.4	20.9
	4H	16.9	17.9	17.4	18.4	18.9	20.0	21.0	20.5	21.5	22.0
	6H	17.1	18.1	17.7	18.6	19.1	21.1	22.0	21.6	22.5	23.0
	8H	17.2	18.0	17.7	18.6	19.1	21.7	22.5	22.2	23.0	23.6
	12H	17.2	18.0	17.8	18.5	19.1	22.2	23.0	22.8	23.5	24.1

8H	4H	17.5	18.3	18.0	18.8	19.4	20.1	21.0	20.7	21.5	22.0
	6H	17.9	18.6	18.4	19.1	19.7	21.4	22.1	22.0	22.7	23.3
	8H	18.0	18.6	18.6	19.2	19.8	22.1	22.7	22.7	23.3	23.9
	12H	18.0	18.6	18.6	19.2	19.8	22.8	23.4	23.4	24.0	24.6

12H	4H	17.6	18.4	18.1	18.9	19.5	20.1	20.9	20.7	21.4	22.0
	6H	18.1	18.7	18.6	19.3	19.9	21.4	22.1	22.0	22.6	23.2
	8H	18.3	18.9	18.8	19.4	20.1	22.2	22.8	22.7	23.3	24.0

Maximum UGR = 24.6

POLAR GRAPH



Maximum Candela = 996.918 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.)