



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-2-L29-840-HIAFR-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]GEN FROM BALLABS TEST NO. 18128.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 05-JUN-2020

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 1-22" LED BOARD 2' SUSPENDED ENCLOSED/GASKETED LUMINAIRE

[MORE] WHITE FLAT REFL w/WHITE FROSTED RIBBED ACRYLIC LENS

[LUMCAT] 96-2-L29-840-HIAFR-DIM-UNV

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3028
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	25
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	2.25 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	7350	6220	6338
55	6448	5563	6015
65	5427	4966	5600
75	4106	4127	4838
85	2491	3282	4063

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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	980.916	980.916	980.916	980.916	980.916
5	985.024	975.780	972.699	969.617	971.672
10	969.617	960.373	957.292	956.265	954.210
15	941.885	936.749	928.532	931.613	929.559
20	903.881	895.663	891.555	896.691	896.691
25	854.578	848.415	851.497	851.497	852.524
30	802.194	797.058	799.113	804.248	806.303
35	735.430	734.403	737.484	745.701	748.783
40	662.503	664.558	669.693	685.100	689.209
45	586.495	588.550	600.875	627.581	634.771
50	509.460	516.650	537.193	575.197	588.550
55	430.370	443.723	479.673	523.840	543.355
60	351.281	371.824	422.153	472.483	494.053
65	280.408	301.978	363.607	414.963	435.506
70	211.590	238.296	301.978	350.254	371.824
75	143.799	178.722	239.323	285.544	304.033
80	86.280	127.365	181.803	223.916	242.404
85	43.140	83.198	134.555	176.668	186.939
90	20.543	52.384	96.551	135.582	143.799
95	16.434	42.113	78.062	109.904	118.121
100	15.407	29.787	63.682	89.361	97.578
105	10.271	18.488	46.221	68.818	80.117
110	7.190	11.299	36.977	54.438	63.682
115	5.136	6.163	25.678	43.140	50.330
120	5.136	4.109	16.434	32.868	40.058
125	3.081	2.054	8.217	23.624	28.760
130	0.000	0.000	2.054	13.353	17.461
135	0.000	0.000	0.000	4.109	8.217
140	0.000	0.000	0.000	0.000	2.054
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	355.51	N.A.	11.70
0-30	747.89	N.A.	24.70
0-40	1210.69	N.A.	40.00
0-60	2113.39	N.A.	69.80
0-80	2715.93	N.A.	89.70
0-90	2857.89	N.A.	94.40
10-90	2765.37	N.A.	91.30
20-40	855.18	N.A.	28.20
20-50	1324.97	N.A.	43.80
40-70	1258.68	N.A.	41.60
60-80	602.54	N.A.	19.90
70-80	246.56	N.A.	8.10
80-90	141.96	N.A.	4.70
90-110	130.58	N.A.	4.30
90-120	156.69	N.A.	5.20
90-130	167.98	N.A.	5.50
90-150	170.09	N.A.	5.60
90-180	170.09	N.A.	5.60
110-180	39.51	N.A.	1.30
0-180	3027.98	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	92.52
10-20	262.99
20-30	392.37
30-40	462.81
40-50	469.80
50-60	432.90
60-70	355.98
70-80	246.56
80-90	141.96
90-100	81.91
100-110	48.67
110-120	26.11
120-130	11.29
130-140	2.06
140-150	0.04
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	165	165	165	165	161	161	161	161	152	152	152	144	144	144	136	136	136	133
1	149	142	135	129	144	138	131	126	130	125	120	123	119	115	117	114	111	107
2	135	123	112	104	130	119	110	102	113	105	98	107	100	95	102	96	92	88
3	123	107	95	86	119	104	93	84	99	90	82	94	86	79	89	83	77	74
4	112	95	82	72	108	92	81	71	88	78	70	84	75	68	80	72	66	63
5	103	85	72	62	100	83	70	61	79	68	60	75	66	59	72	64	57	54
6	95	76	63	54	92	74	62	54	71	60	53	68	59	51	65	57	50	47
7	88	69	57	48	85	68	56	47	65	54	46	62	53	46	59	51	45	42
8	82	63	51	43	80	62	50	42	59	49	42	57	48	41	55	46	40	37
9	77	58	46	38	74	57	46	38	54	44	37	52	43	37	50	42	36	34
10	72	53	42	35	70	52	42	34	50	41	34	49	40	33	47	39	33	30

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**UGR TABLE - CORRECTED**

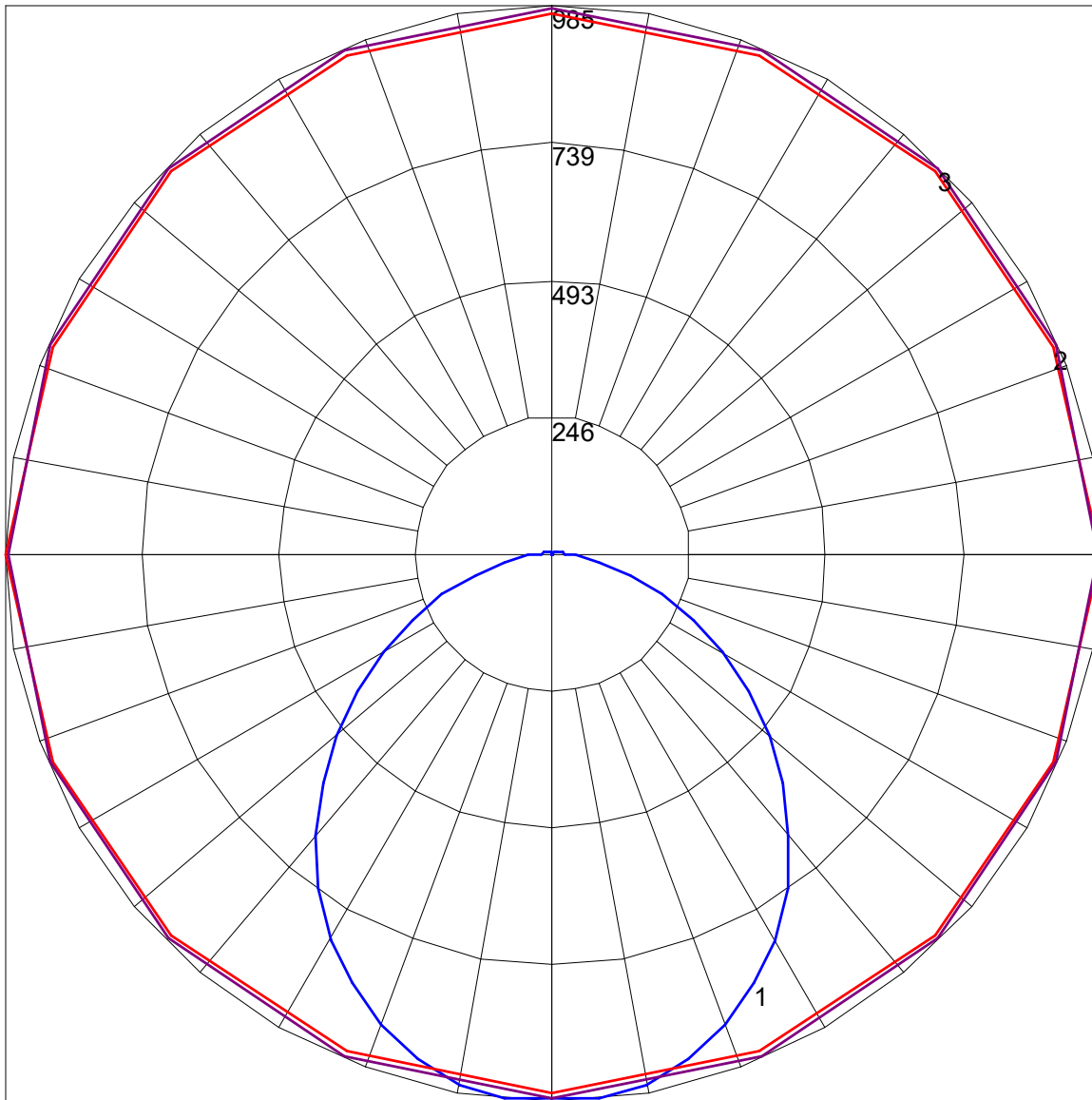
Reflectances

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	15.3	16.9	15.8	17.3	17.8	17.5	19.0	18.0	19.5	19.9
	3H	16.8	18.2	17.2	18.6	19.1	19.8	21.2	20.3	21.7	22.2
	4H	17.2	18.6	17.7	19.0	19.5	20.9	22.2	21.4	22.7	23.2
	6H	17.5	18.8	18.0	19.2	19.8	21.8	23.1	22.3	23.6	24.1
	8H	17.6	18.8	18.1	19.3	19.8	22.3	23.5	22.8	24.0	24.5
	12H	17.7	18.8	18.2	19.3	19.9	22.8	23.9	23.3	24.4	25.0
4H	2H	16.2	17.5	16.7	18.0	18.5	17.9	19.2	18.4	19.7	20.2
	3H	17.9	19.0	18.4	19.5	20.0	20.5	21.6	21.0	22.1	22.7
	4H	18.5	19.5	19.0	20.0	20.6	21.7	22.7	22.2	23.2	23.8
	6H	18.9	19.8	19.4	20.3	20.9	22.8	23.7	23.4	24.3	24.9
	8H	19.0	19.8	19.6	20.4	21.0	23.4	24.2	23.9	24.8	25.4
	12H	19.1	19.8	19.7	20.4	21.0	23.9	24.7	24.5	25.3	25.9
8H	4H	19.1	19.9	19.6	20.5	21.1	21.9	22.7	22.4	23.3	23.9
	6H	19.6	20.4	20.2	21.0	21.6	23.1	23.9	23.7	24.5	25.1
	8H	19.9	20.5	20.5	21.1	21.7	23.8	24.5	24.4	25.1	25.7
	12H	20.0	20.6	20.6	21.2	21.9	24.6	25.1	25.2	25.7	26.4
12H	4H	19.2	20.0	19.8	20.6	21.2	21.9	22.6	22.4	23.2	23.8
	6H	19.9	20.5	20.5	21.1	21.8	23.2	23.8	23.8	24.4	25.1
	8H	20.2	20.7	20.8	21.3	22.0	23.9	24.5	24.5	25.1	25.8

Maximum UGR = 26.4

POLAR GRAPH



Maximum Candela = 985.024 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.)  
# 3 - Horizontal Cone Through Vertical Angle (0)