



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L62-940-HIAFR-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20008.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 05-06-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4 VAPORTITE LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/HIAFR LENS
 [MORE] EVERLINE LED DRIVER #D15CC55UNVTW-C @ 1029mA
 [LUMCAT] 96-4-L62-940-HIAFR-DIM-UNV
 [LAMPCAT] HLM 90 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5224
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	48.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
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	7660	6340	6050
55	6396	5239	5151
65	4896	4315	4691
75	3198	3591	4233
85	1236	2946	3533

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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	1882.069	1882.069	1882.069	1882.069	1882.069
5	1909.675	1872.326	1865.830	1858.523	1853.651
10	1881.257	1844.720	1824.422	1807.371	1796.004
15	1834.165	1790.320	1761.091	1736.732	1721.306
20	1764.338	1713.186	1680.709	1632.805	1612.506
25	1677.461	1616.566	1577.593	1520.757	1514.262
30	1569.473	1504.519	1465.546	1437.940	1446.871
35	1445.247	1378.668	1352.686	1362.430	1383.540
40	1292.603	1227.648	1243.887	1247.135	1267.433
45	1112.353	1069.321	1119.661	1115.601	1127.780
50	934.539	916.676	967.017	980.819	983.255
55	765.656	774.588	817.620	854.969	862.277
60	604.893	636.558	682.839	753.477	764.032
65	443.317	487.162	564.296	651.173	672.284
70	305.288	352.380	461.992	552.117	582.970
75	187.557	240.333	364.560	460.368	486.350
80	92.561	155.080	278.494	371.055	384.046
85	30.854	96.620	203.796	287.426	293.109
90	12.179	62.519	150.208	214.351	220.847
95	11.367	43.033	121.790	168.071	176.190
100	9.743	26.794	92.561	130.722	139.653
105	6.495	15.427	68.203	101.492	112.047
110	4.060	5.684	48.716	78.758	87.689
115	3.248	1.624	31.666	58.459	69.015
120	1.624	0.812	19.486	42.221	49.528
125	0.000	0.000	6.495	25.982	34.101
130	0.000	0.000	0.000	12.179	19.486
135	0.000	0.000	0.000	4.060	7.307
140	0.000	0.000	0.000	3.248	3.248
145	0.000	0.000	0.000	1.624	1.624
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	674.36	N.A.	12.90
0-30	1402.73	N.A.	26.90
0-40	2261.56	N.A.	43.30
0-60	3847.32	N.A.	73.60
0-80	4783.49	N.A.	91.60
0-90	4993.81	N.A.	95.60
10-90	4816.65	N.A.	92.20
20-40	1587.2	N.A.	30.40
20-50	2440.07	N.A.	46.70
40-70	2148.42	N.A.	41.10
60-80	936.17	N.A.	17.90
70-80	373.51	N.A.	7.20
80-90	210.32	N.A.	4.00
90-110	183.21	N.A.	3.50
90-120	215.76	N.A.	4.10
90-130	227.60	N.A.	4.40
90-150	230.07	N.A.	4.40
90-180	230.07	N.A.	4.40
110-180	46.86	N.A.	0.90
0-180	5223.88	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	177.15
10-20	497.21
20-30	728.38
30-40	858.83
40-50	852.86
50-60	732.89
60-70	562.66
70-80	373.51
80-90	210.32
90-100	117.46
100-110	65.74
110-120	32.55
120-130	11.84
130-140	2.08
140-150	0.39
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	65	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	61	52	46	58	51	45	56	49	44	53	48	43	41
6	69	56	47	41	67	55	46	40	52	45	39	50	44	39	48	43	38	36
7	64	51	42	36	62	50	41	36	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	37	31	42	36	31	41	35	30	29
9	56	43	34	29	54	42	34	29	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	37	31	26	36	30	25	35	29	25	23

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UGR TABLE - CORRECTED

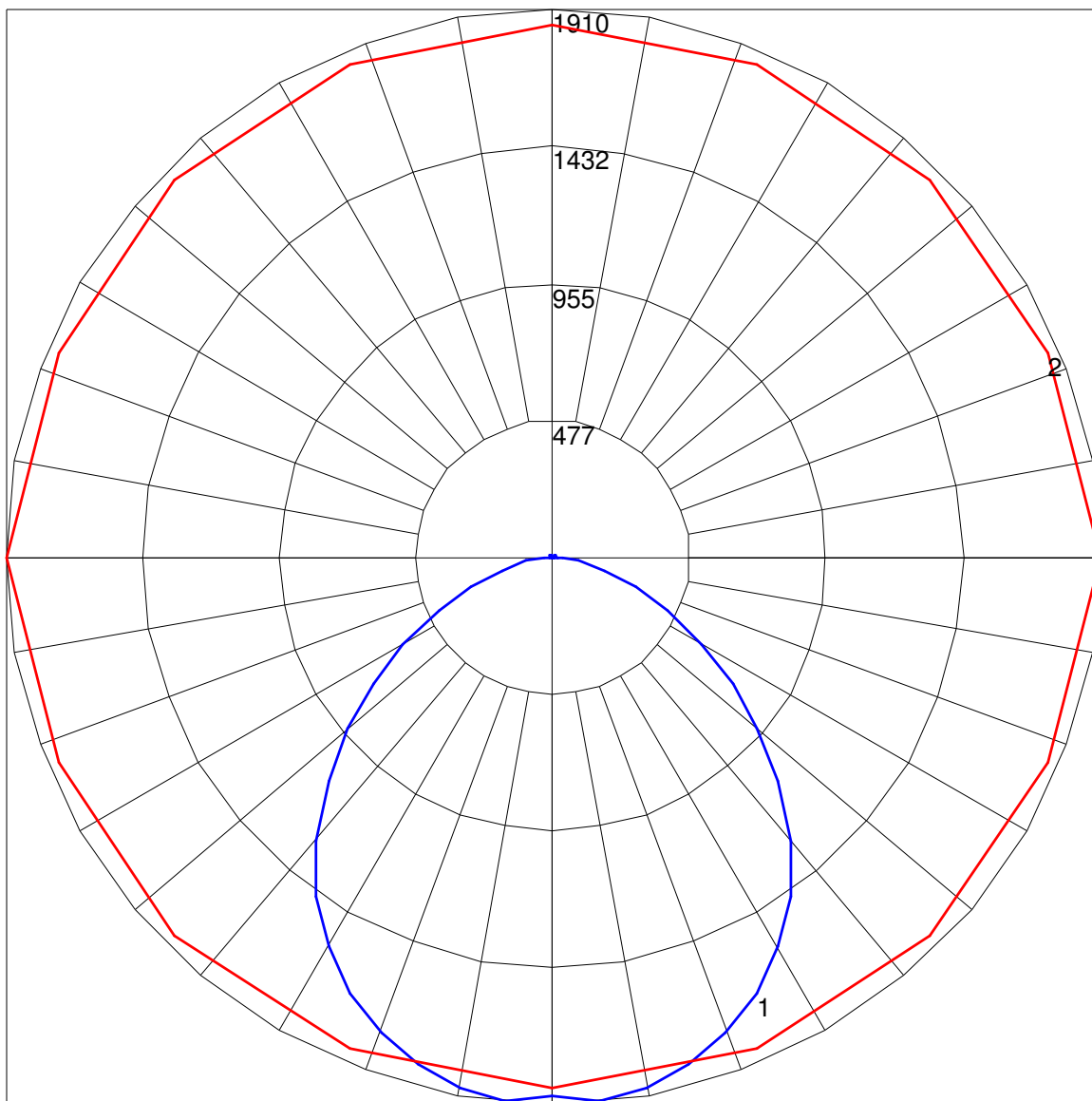
Reflectances

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	16.4	17.9	16.8	18.3	18.7	18.1	19.6	18.5	20.0	20.4
	3H	17.5	18.9	17.9	19.3	19.8	20.4	21.8	20.8	22.2	22.7
	4H	17.8	19.1	18.2	19.5	20.0	21.5	22.8	21.9	23.2	23.7
	6H	17.9	19.2	18.4	19.6	20.1	22.5	23.8	23.0	24.2	24.7
	8H	17.9	19.1	18.4	19.6	20.1	23.0	24.2	23.5	24.7	25.2
	12H	17.9	19.1	18.4	19.5	20.1	23.5	24.7	24.0	25.1	25.7
4H	2H	17.1	18.4	17.5	18.8	19.3	18.5	19.8	18.9	20.2	20.7
	3H	18.4	19.6	18.9	20.0	20.5	21.0	22.1	21.5	22.6	23.1
	4H	18.9	19.9	19.4	20.4	20.9	22.3	23.3	22.8	23.8	24.3
	6H	19.1	20.0	19.6	20.5	21.0	23.5	24.4	24.0	24.9	25.5
	8H	19.1	20.0	19.6	20.5	21.0	24.1	24.9	24.6	25.5	26.0
	12H	19.2	19.9	19.7	20.5	21.0	24.7	25.5	25.3	26.0	26.6
8H	4H	19.4	20.3	20.0	20.8	21.4	22.4	23.3	22.9	23.8	24.3
	6H	19.8	20.5	20.4	21.1	21.7	23.8	24.5	24.4	25.1	25.7
	8H	19.9	20.6	20.5	21.2	21.7	24.6	25.2	25.1	25.8	26.4
	12H	20.0	20.6	20.6	21.1	21.8	25.4	25.9	25.9	26.5	27.1
12H	4H	19.6	20.4	20.2	20.9	21.5	22.4	23.2	23.0	23.7	24.3
	6H	20.1	20.7	20.7	21.3	21.9	23.8	24.5	24.4	25.0	25.7
	8H	20.3	20.9	20.8	21.4	22.1	24.6	25.2	25.2	25.8	26.4

Maximum UGR = 27.1

POLAR GRAPH



Maximum Candela = 1909.675 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.)