



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 96-8-L80-840-HIAFR-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM BALLABS TEST NO. 18148.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUE DATE] 107-13/2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMINAIRE] 8' SUSPENDED ENCLOSED/GASKETED LUMINAIRE
[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED DROP LENS
[LUMCAT] 96-8-L80-840-HIAFR-DRV-UNV
[LAMPCAT] HLM 80 CRI 4000K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8035
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	155
Total Luminaire Watts	51.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.06
Spacing Criterion (Diagonal)	1.26
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	8.29 ft
Luminous Width (90-270)	0.52 ft
Luminous Height	0.19 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6092	4545	4661
55	5232	4149	4128
65	4092	3564	3443
75	2803	2792	2758
85	1514	2161	2155

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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	2964.332	2964.332	2964.332	2964.332	2964.332
5	2994.262	2981.792	2974.309	2966.827	2965.579
10	2914.449	2883.895	2868.930	2851.471	2842.741
15	2863.942	2830.270	2775.398	2719.903	2714.914
20	2718.656	2673.760	2567.134	2547.181	2519.745
25	2552.169	2501.038	2416.860	2281.551	2235.408
30	2376.953	2295.269	2152.477	2059.569	2062.063
35	2219.820	2132.523	1966.037	1978.508	1994.720
40	1992.226	1896.824	1785.209	1845.693	1883.106
45	1752.785	1642.417	1628.699	1740.314	1788.950
50	1478.425	1386.764	1450.989	1582.557	1612.487
55	1232.748	1184.112	1316.927	1418.565	1432.283
60	969.612	983.330	1137.346	1206.559	1219.030
65	721.441	794.396	950.906	1016.378	1031.343
70	506.318	626.663	774.443	840.538	859.245
75	313.020	442.093	581.144	649.110	670.311
80	167.734	301.796	435.858	501.330	523.778
85	66.096	190.181	309.278	367.268	385.974
90	18.706	104.132	197.664	248.171	265.630
95	4.988	69.213	155.263	209.511	224.476
100	0.000	47.389	127.827	177.710	195.170
105	0.000	28.683	100.391	149.027	162.745
110	0.000	16.212	76.696	119.097	131.568
115	0.000	11.224	53.625	89.167	100.391
120	0.000	0.000	38.660	70.461	80.437
125	0.000	0.000	21.201	47.389	57.366
130	0.000	0.000	16.212	33.671	39.907
135	0.000	0.000	0.000	19.953	28.683
140	0.000	0.000	0.000	0.000	21.201
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	1058.71	N.A.	13.20
0-30	2162.74	N.A.	26.90
0-40	3438.07	N.A.	42.80
0-60	5910.37	N.A.	73.60
0-80	7398.89	N.A.	92.10
0-90	7702.95	N.A.	95.90
10-90	7422.8	N.A.	92.40
20-40	2379.36	N.A.	29.60
20-50	3682.86	N.A.	45.80
40-70	3377.54	N.A.	42.00
60-80	1488.52	N.A.	18.50
70-80	583.27	N.A.	7.30
80-90	304.07	N.A.	3.80
90-110	248.64	N.A.	3.10
90-120	300.64	N.A.	3.70
90-130	323.98	N.A.	4.00
90-150	331.76	N.A.	4.10
90-180	331.76	N.A.	4.10
110-180	83.11	N.A.	1.00
0-180	8034.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	280.16
10-20	778.56
20-30	1104.03
30-40	1275.33
40-50	1303.5
50-60	1168.8
60-70	905.24
70-80	583.27
80-90	304.07
90-100	152.82
100-110	95.82
110-120	52.00
120-130	23.33
130-140	7.34
140-150	0.44
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	90	87	84	85	83	81	79
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	53	79	68	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	60	52	46	58	50	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	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	30	26	36	30	25	35	29	25	23

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UGR TABLE - CORRECTED

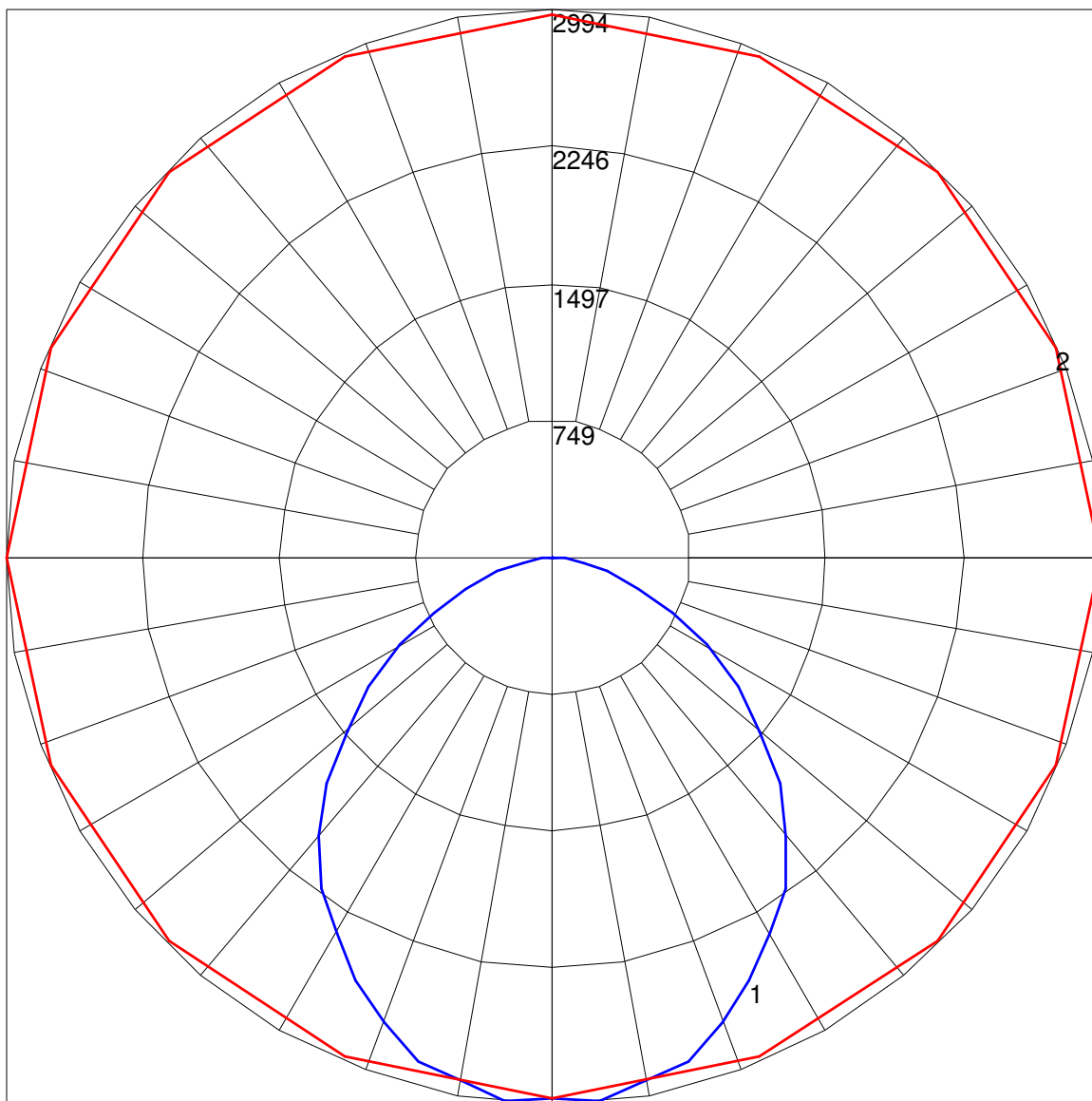
Reflectances

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	15.4	16.9	15.8	17.3	17.8	17.6	19.1	18.0	19.5	19.9
	3H	16.7	18.1	17.1	18.5	19.0	19.7	21.1	20.1	21.5	21.9
	4H	17.1	18.4	17.5	18.8	19.3	20.6	21.9	21.0	22.3	22.8
	6H	17.2	18.5	17.7	18.9	19.4	21.4	22.7	21.9	23.1	23.6
	8H	17.3	18.5	17.8	18.9	19.4	21.9	23.1	22.4	23.5	24.0
	12H	17.3	18.4	17.8	18.9	19.4	22.3	23.5	22.8	23.9	24.4
4H	2H	16.3	17.6	16.7	18.0	18.5	18.0	19.3	18.4	19.8	20.2
	3H	17.8	18.9	18.3	19.4	19.9	20.3	21.4	20.8	21.9	22.4
	4H	18.3	19.3	18.8	19.8	20.3	21.3	22.4	21.8	22.8	23.4
	6H	18.6	19.5	19.1	20.0	20.6	22.4	23.3	22.9	23.8	24.3
	8H	18.7	19.5	19.2	20.0	20.6	22.9	23.7	23.4	24.2	24.8
	12H	18.7	19.5	19.2	20.0	20.6	23.4	24.2	24.0	24.7	25.3
8H	4H	18.9	19.7	19.4	20.2	20.8	21.5	22.4	22.0	22.9	23.4
	6H	19.3	20.0	19.9	20.6	21.2	22.7	23.4	23.2	24.0	24.5
	8H	19.5	20.1	20.0	20.7	21.3	23.3	24.0	23.9	24.5	25.1
	12H	19.6	20.1	20.1	20.7	21.3	24.0	24.6	24.6	25.1	25.8
12H	4H	19.0	19.7	19.5	20.3	20.9	21.5	22.3	22.1	22.8	23.4
	6H	19.5	20.2	20.1	20.7	21.3	22.7	23.4	23.3	23.9	24.5
	8H	19.7	20.3	20.3	20.9	21.5	23.4	24.0	24.0	24.5	25.2

Maximum UGR = 25.8

POLAR GRAPH



Maximum Candela = 2994.262 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.)