



IES INDOOR REPORT  
PHOTOMETRIC FILENAME : HZL-4-L310-840-HIAFR-XXXX-DRV-UNV\_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] GEN from BALLABS TEST NO. 21052.0  
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
[ISSUE DATE] 4-DEC-2024  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] FULLY SEALED & GASKETED HAZARDOUS LOCATION LED LUMINAIRE  
[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC DROP LENS  
[LUMCAT] HZL-4-L310-840-HIAFR-xxxx-DRV-UNV  
[LAMPCAT] HLM 80 CRI, 4000K CCT  
[ SEARCH\_SOURCETYPE] LED  
[ SEARCH\_APPLICATION] INDOOR, OUTDOOR, COMMERCIAL, INDUSTRIAL  
[ SEARCH\_MOUNTING] SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	31200
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	151
Total Luminaire Watts	206
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	1.10 ft
Luminous Height	0.23 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	21531	18325	18022
55	18398	15420	16981
65	15048	13403	14644
75	10433	10602	12173
85	4547	7703	9412

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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	11115.851	11115.851	11115.851	11115.851	11115.851
5	11254.912	11079.798	11003.830	10975.503	10965.202
10	11097.825	10936.875	10877.645	10853.181	10844.168
15	10813.265	10689.656	10654.890	10644.590	10630.426
20	10470.764	10356.167	10305.951	10313.676	10277.624
25	10008.515	9872.030	9835.977	9821.813	9811.512
30	9457.422	9345.401	9262.995	9221.791	9122.646
35	8764.693	8652.672	8576.704	8332.060	8212.313
40	7923.891	7841.484	7719.162	7421.727	7372.798
45	7000.681	7063.774	6698.095	6644.016	6713.547
50	6016.955	5966.739	5764.585	6040.132	6149.578
55	4958.548	4900.606	4877.429	5395.044	5508.353
60	3933.618	3991.560	4164.099	4641.798	4771.846
65	3095.390	3068.351	3450.768	3853.787	3901.428
70	2168.318	2286.778	2743.876	3074.789	3135.306
75	1415.072	1577.310	2022.820	2333.131	2438.714
80	773.848	954.112	1425.373	1707.358	1783.326
85	279.409	511.177	911.621	1148.539	1206.481
90	127.472	292.285	557.531	723.631	763.547
95	115.884	222.755	386.280	476.412	494.438
100	112.021	177.689	298.723	360.528	372.116
105	99.145	139.061	247.219	302.586	319.325
110	79.831	101.720	206.016	263.958	280.697
115	61.805	74.681	167.388	229.193	247.219
120	45.066	48.929	133.910	193.140	215.029
125	33.478	28.327	101.720	160.950	177.689
130	23.177	20.602	72.106	123.610	144.211
135	18.026	0.000	45.066	93.995	108.158
140	0.000	0.000	24.464	61.805	77.256
145	0.000	0.000	0.000	39.916	48.929
150	0.000	0.000	0.000	16.739	23.177
155	0.000	0.000	0.000	0.000	16.739
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

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : HZL-4-L310-840-HIAFR-XXXX-DRV-UNV\_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	4062.69	N.A.	13.00
0-30	8603.21	N.A.	27.60
0-40	13921.16	N.A.	44.60
0-60	23759.55	N.A.	76.20
0-80	29305.2	N.A.	93.90
0-90	30259.89	N.A.	97.00
10-90	29209.71	N.A.	93.60
20-40	9858.47	N.A.	31.60
20-50	15120.62	N.A.	48.50
40-70	13282.77	N.A.	42.60
60-80	5545.65	N.A.	17.80
70-80	2101.27	N.A.	6.70
80-90	954.69	N.A.	3.10
90-110	641.23	N.A.	2.10
90-120	797.23	N.A.	2.60
90-130	887.26	N.A.	2.80
90-150	939.07	N.A.	3.00
90-180	940.45	N.A.	3.00
110-180	299.22	N.A.	1.00
0-180	31200.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1050.19
10-20	3012.5
20-30	4540.53
30-40	5317.95
40-50	5262.14
50-60	4576.25
60-70	3444.38
70-80	2101.27
80-90	954.69
90-100	401.15
100-110	240.08
110-120	156.00
120-130	90.02
130-140	40.51
140-150	11.31
150-160	1.38
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	119	119	119	119	115	115	115	115	110	110	110	104	104	104	99	99	99	97
1	108	103	99	95	105	100	96	93	96	92	89	91	88	86	87	85	83	81
2	98	90	83	77	95	88	81	76	84	78	74	80	75	72	76	73	70	67
3	90	79	71	64	87	77	70	64	74	67	62	71	65	61	68	63	59	57
4	82	70	61	55	80	69	60	54	66	59	53	63	57	52	61	55	51	49
5	76	63	54	47	73	61	53	47	59	52	46	57	50	45	55	49	44	42
6	70	57	48	41	68	55	47	41	53	46	40	51	45	40	50	44	39	37
7	65	51	43	37	63	50	42	36	49	41	36	47	40	35	45	39	35	33
8	60	47	38	33	59	46	38	32	45	37	32	43	36	32	42	36	31	29
9	56	43	35	29	55	42	35	29	41	34	29	40	33	29	39	33	28	26
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

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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	20.7	22.3	21.1	22.7	23.0	22.0	23.6	22.4	24.0	24.4
	3H	22.0	23.4	22.5	23.8	24.3	23.9	25.4	24.4	25.7	26.2
	4H	22.4	23.8	22.9	24.2	24.6	24.8	26.1	25.2	26.5	26.9
	6H	22.7	23.9	23.1	24.3	24.8	25.5	26.7	25.9	27.1	27.6
	8H	22.7	23.9	23.2	24.4	24.8	25.8	27.0	26.3	27.4	27.9
	12H	22.7	23.9	23.2	24.3	24.8	26.1	27.2	26.6	27.7	28.2

UGR Viewed Endwise

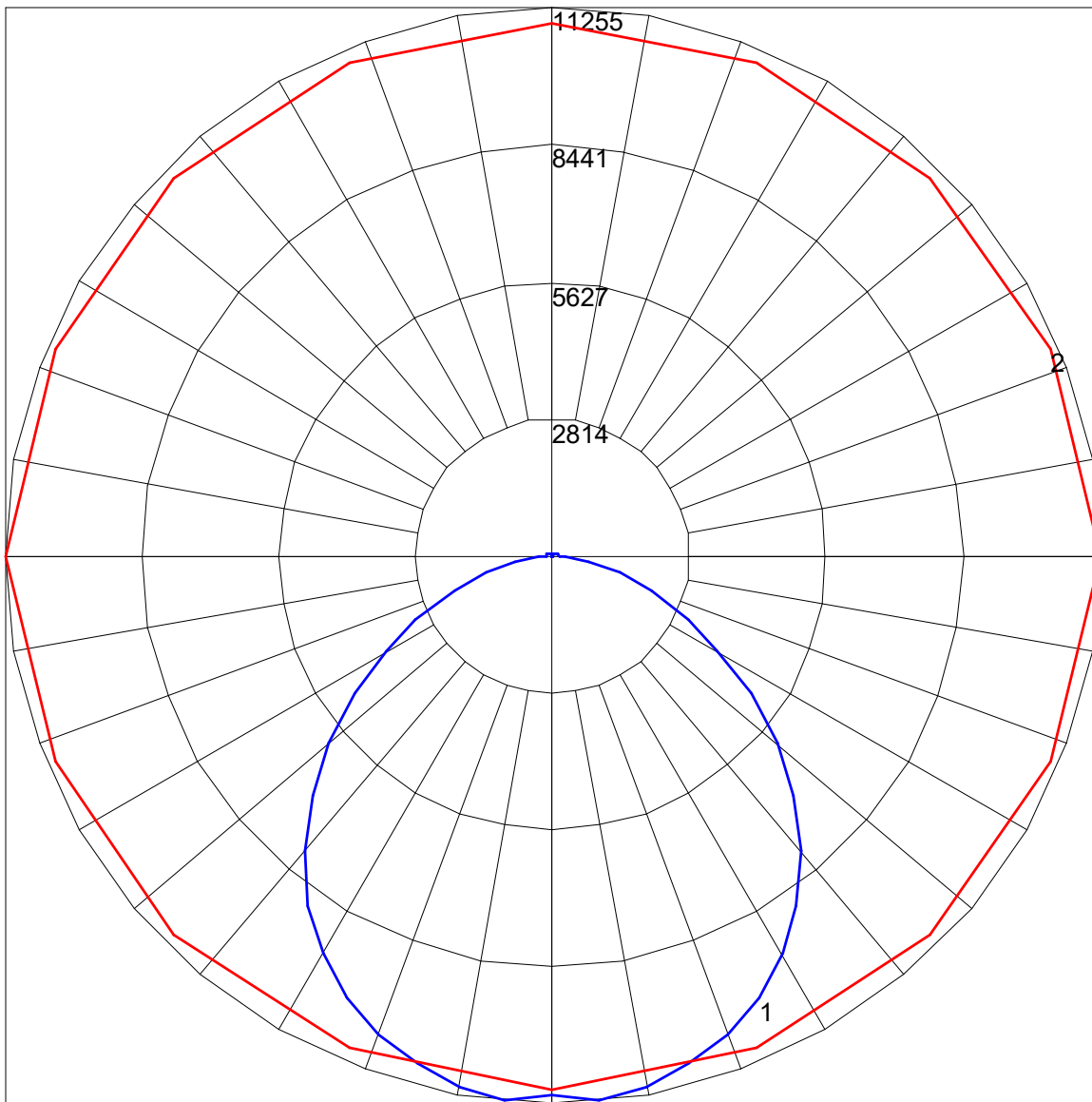
4H	2H	21.4	22.7	21.8	23.1	23.6	22.4	23.8	22.9	24.2	24.6
	3H	22.9	24.0	23.4	24.5	25.0	24.6	25.7	25.1	26.2	26.6
	4H	23.4	24.4	23.9	24.9	25.4	25.6	26.6	26.0	27.0	27.5
	6H	23.8	24.6	24.3	25.1	25.7	26.4	27.3	26.9	27.8	28.4
	8H	23.8	24.7	24.3	25.2	25.7	26.8	27.7	27.3	28.2	28.7
	12H	23.9	24.6	24.4	25.1	25.7	27.2	28.0	27.8	28.5	29.0

8H	4H	23.9	24.7	24.4	25.2	25.7	25.7	26.6	26.2	27.1	27.6
	6H	24.3	25.0	24.8	25.5	26.1	26.8	27.5	27.3	28.0	28.5
	8H	24.4	25.0	25.0	25.6	26.2	27.3	27.9	27.8	28.5	29.0
	12H	24.5	25.1	25.0	25.6	26.2	27.8	28.3	28.3	28.9	29.5

12H	4H	23.9	24.7	24.5	25.2	25.8	25.7	26.5	26.3	27.0	27.6
	6H	24.4	25.1	25.0	25.6	26.2	26.8	27.4	27.4	27.9	28.5
	8H	24.6	25.2	25.2	25.7	26.3	27.3	27.9	27.9	28.4	29.1

Maximum UGR = 29.5

POLAR GRAPH



Maximum Candela = 11254.912 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.)