



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZL-4-L400-840-HIA-XXXX-DRV-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TESTLAB] GEN from BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 4-DEC-2024

[TEST] BALLABS TEST NO. 21051.0

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

[LUMINAIRE] FULLY SEALED & GASKETED HAZARDOUS LOCATION LED LUMINAIRE

[MORE] WHITE REFLECTOR w/CLEAR ACRYLIC DROP LENS

[LUMCAT] HZL-4-L400-840-HIA-xxxx-DRV-UNV

[LAMPCAT] HLM 80 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	39997
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	148
Total Luminaire Watts	270
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
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	29790	22861	22838
55	26985	18612	24360
65	21904	20896	19795
75	12747	11803	14744
85	4401	8393	9230

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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	13959.839	13959.839	13959.839	13959.839	13959.839
5	14122.425	13992.034	13765.058	13737.692	13721.595
10	13930.863	13728.034	13686.180	13665.253	13687.790
15	13618.570	13489.789	13559.009	13525.204	13510.716
20	13229.008	13167.837	13142.081	13129.203	13122.764
25	12720.324	12758.958	12686.519	12709.056	12721.934
30	12134.371	12126.322	12181.054	12230.957	12242.225
35	11435.735	11480.809	11503.345	11868.761	110964.076
40	10669.490	10674.319	11907.395	7670.507	7609.336
45	9685.926	9673.048	8356.264	7161.822	8507.582
50	8573.582	8652.460	6158.942	9508.853	9101.583
55	7272.896	7976.361	5886.892	7771.922	7902.312
60	5923.917	5684.063	6955.773	6733.626	6976.700
65	4505.718	3383.716	5379.818	5635.770	5273.574
70	3074.642	2453.274	4215.962	3684.741	2902.397
75	1728.882	1743.370	2252.054	2084.639	2953.910
80	738.880	1279.759	1133.271	1643.565	1690.248
85	270.440	576.294	993.222	1247.564	1183.174
90	66.000	278.488	384.733	375.074	363.806
95	85.317	99.805	122.342	149.708	154.537
100	135.220	91.756	111.073	120.732	119.122
105	114.293	106.244	106.244	143.269	146.488
110	83.708	77.268	85.317	106.244	114.293
115	56.342	70.829	70.829	78.878	85.317
120	40.244	40.244	111.073	64.390	70.829
125	27.366	19.317	80.488	146.488	115.903
130	19.317	0.000	35.415	78.878	140.049
135	14.488	0.000	54.732	41.854	41.854
140	0.000	0.000	22.537	85.317	56.342
145	0.000	0.000	0.000	37.024	62.781
150	0.000	0.000	0.000	16.098	20.927
155	0.000	0.000	0.000	0.000	14.488
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	5135.36	N.A.	12.80
0-30	11000.12	N.A.	27.50
0-40	18053.29	N.A.	45.10
0-60	31442.85	N.A.	78.60
0-80	38588.35	N.A.	96.50
0-90	39515.53	N.A.	98.80
10-90	38196.53	N.A.	95.50
20-40	12917.93	N.A.	32.30
20-50	19735.62	N.A.	49.30
40-70	18196.93	N.A.	45.50
60-80	7145.5	N.A.	17.90
70-80	2338.13	N.A.	5.80
80-90	927.18	N.A.	2.30
90-110	301.95	N.A.	0.80
90-120	377.87	N.A.	0.90
90-130	439.74	N.A.	1.10
90-150	479.94	N.A.	1.20
90-180	481.20	N.A.	1.20
110-180	179.25	N.A.	0.40
0-180	39996.73	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	1319.00
10-20	3816.36
20-30	5864.75
30-40	7053.18
40-50	6817.69
50-60	6571.87
60-70	4807.37
70-80	2338.13
80-90	927.18
90-100	183.47
100-110	118.47
110-120	75.92
120-130	61.87
130-140	28.17
140-150	12.02
150-160	1.26
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	115	115	115	115	112	112	112	112	107	107	107	102	102	102	98	98	98	96
1	105	100	96	92	102	98	94	91	94	91	88	90	87	85	86	84	82	80
2	96	88	81	75	93	86	80	74	82	77	73	79	74	71	76	72	69	67
3	87	77	69	63	85	75	68	62	72	66	61	69	64	60	67	62	59	56
4	80	68	60	53	77	67	59	53	64	57	52	62	56	51	60	55	50	48
5	73	61	52	46	71	60	52	46	58	50	45	56	49	44	54	48	44	42
6	68	55	46	40	66	54	46	40	52	45	39	50	44	39	49	43	38	36
7	63	50	41	35	61	49	41	35	47	40	35	46	39	34	44	39	34	32
8	58	45	37	31	57	45	37	31	43	36	31	42	36	31	41	35	31	29
9	55	42	34	28	53	41	33	28	40	33	28	39	32	28	38	32	28	26
10	51	38	31	26	50	38	31	26	37	30	25	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

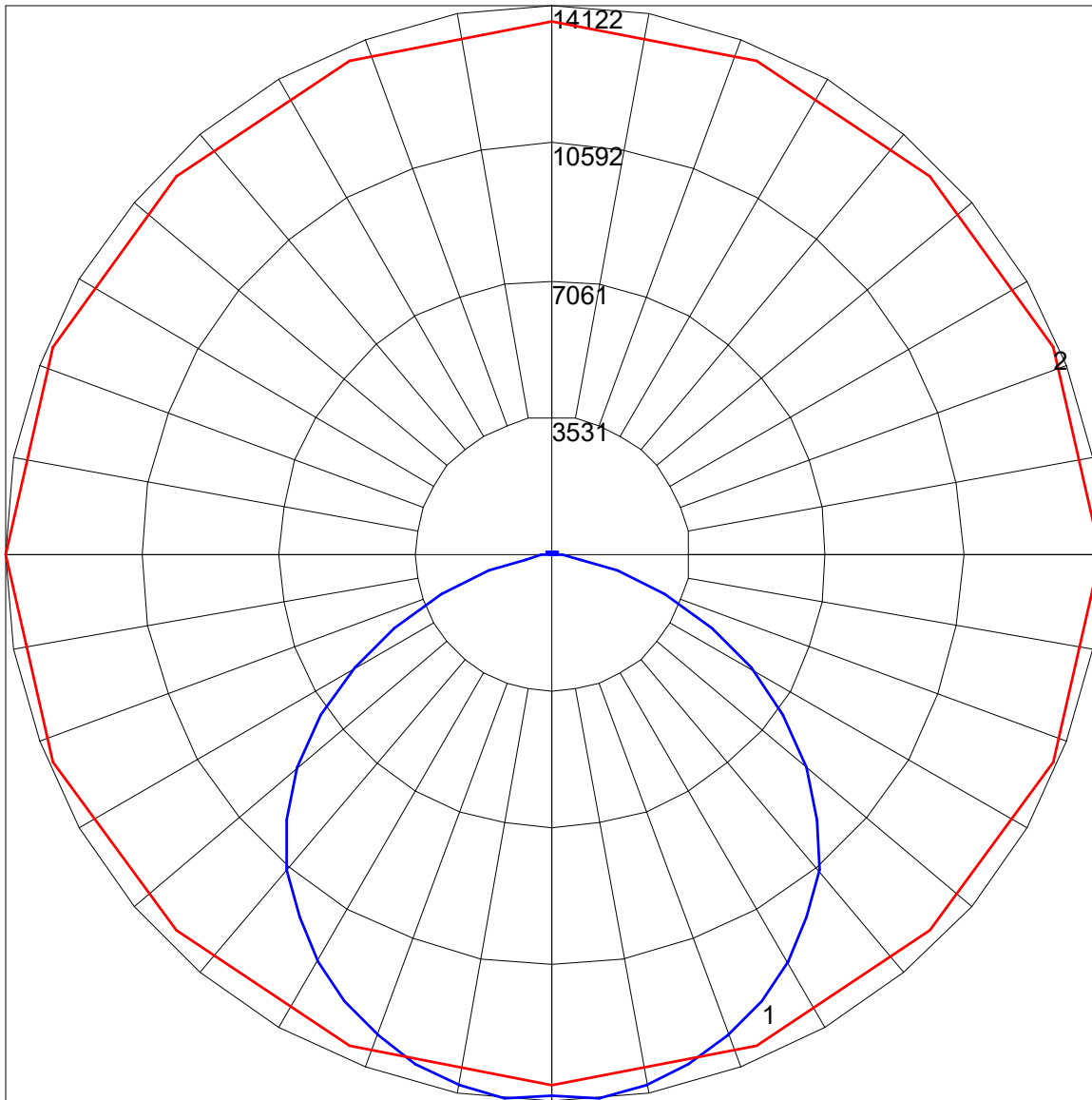
X=2H	Y=2H	23.0	24.6	23.4	24.9	25.3	23.9	25.5	24.3	25.9	26.2
	3H	23.9	25.3	24.3	25.7	26.1	25.3	26.7	25.7	27.1	27.5
	4H	24.2	25.5	24.6	25.9	26.3	25.8	27.2	26.2	27.6	28.0
	6H	24.3	25.6	24.7	25.9	26.4	26.3	27.5	26.7	27.9	28.3
	8H	24.3	25.5	24.7	25.9	26.4	26.5	27.7	26.9	28.1	28.5
	12H	24.3	25.5	24.8	25.9	26.3	26.7	27.8	27.1	28.2	28.7

### UGR Viewed Endwise

4H	2H	23.7	25.0	24.1	25.4	25.8	24.4	25.8	24.8	26.2	26.6
	3H	24.7	25.9	25.2	26.3	26.7	26.0	27.1	26.4	27.6	28.0
	4H	25.1	26.1	25.5	26.6	27.0	26.6	27.6	27.0	28.0	28.5
	6H	25.3	26.2	25.8	26.7	27.1	27.1	28.0	27.6	28.5	29.0
	8H	25.3	26.2	25.8	26.7	27.1	27.4	28.2	27.9	28.7	29.2
	12H	25.4	26.1	25.9	26.6	27.1	27.6	28.4	28.1	28.9	29.4
8H	4H	25.3	26.2	25.8	26.6	27.1	26.7	27.5	27.2	28.0	28.5
	6H	25.6	26.3	26.1	26.8	27.3	27.3	28.0	27.8	28.5	29.0
	8H	25.7	26.4	26.2	26.9	27.4	27.7	28.3	28.2	28.8	29.3
	12H	25.8	26.3	26.3	26.8	27.4	28.0	28.6	28.6	29.1	29.7
12H	4H	25.4	26.1	25.9	26.6	27.1	26.7	27.4	27.2	27.9	28.4
	6H	25.7	26.3	26.2	26.8	27.4	27.3	28.0	27.9	28.5	29.0
	8H	25.8	26.4	26.3	26.9	27.5	27.7	28.3	28.2	28.8	29.4

Maximum UGR = 29.7

POLAR GRAPH



Maximum Candela = 14122.425 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.)