



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZL-4-L197-840-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-L197-840-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	20373
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	157
Total Luminaire Watts	130
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	15174	11645	11633
55	13745	9480	12408
65	11157	10644	10083
75	6493	6012	7510
85	2242	4275	4702

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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	7110.606	7110.606	7110.606	7110.606	7110.606
5	7193.421	7127.005	7011.392	6997.453	6989.254
10	7095.847	6992.533	6971.215	6960.555	6972.035
15	6936.777	6871.181	6906.439	6889.220	6881.840
20	6738.349	6707.191	6694.072	6687.512	6684.232
25	6479.245	6498.924	6462.026	6473.505	6480.065
30	6180.783	6176.683	6204.562	6229.980	6235.720
35	5824.925	5847.883	5859.363	6045.491	5584.679
40	5434.628	5437.088	6065.170	3907.062	3875.904
45	4933.639	4927.079	4256.360	3647.957	4333.436
50	4367.054	4407.231	3137.129	4843.445	4635.997
55	3704.534	4062.852	2998.557	3958.719	4025.134
60	3017.416	2895.243	3543.004	3429.851	3553.663
65	2295.040	1723.535	2740.273	2870.645	2686.156
70	1566.104	1249.604	2147.449	1876.866	1478.370
75	880.626	888.006	1147.110	1061.835	1504.608
80	376.357	651.860	577.245	837.169	860.947
85	137.752	293.542	505.909	635.461	602.663
90	33.618	141.851	195.968	191.048	185.309
95	43.457	50.837	62.316	76.255	78.715
100	68.876	46.737	56.577	61.496	60.676
105	58.216	54.117	54.117	72.976	74.615
110	42.637	39.358	43.457	54.117	58.216
115	28.698	36.078	36.078	40.178	43.457
120	20.499	20.499	56.577	32.798	36.078
125	13.939	9.839	40.997	74.615	59.036
130	9.839	0.000	18.039	40.178	71.336
135	7.380	0.000	27.878	21.319	21.319
140	0.000	0.000	11.479	43.457	28.698
145	0.000	0.000	0.000	18.859	31.978
150	0.000	0.000	0.000	8.199	10.659
155	0.000	0.000	0.000	0.000	7.380
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	2615.76	N.A.	12.80
0-30	5603.04	N.A.	27.50
0-40	9195.65	N.A.	45.10
0-60	16015.78	N.A.	78.60
0-80	19655.42	N.A.	96.50
0-90	20127.7	N.A.	98.80
10-90	19455.85	N.A.	95.50
20-40	6579.9	N.A.	32.30
20-50	10052.57	N.A.	49.30
40-70	9268.82	N.A.	45.50
60-80	3639.64	N.A.	17.90
70-80	1190.95	N.A.	5.80
80-90	472.27	N.A.	2.30
90-110	153.80	N.A.	0.80
90-120	192.47	N.A.	0.90
90-130	223.99	N.A.	1.10
90-150	244.46	N.A.	1.20
90-180	245.10	N.A.	1.20
110-180	91.30	N.A.	0.40
0-180	20372.8	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	671.85
10-20	1943.91
20-30	2987.28
30-40	3592.62
40-50	3472.67
50-60	3347.46
60-70	2448.69
70-80	1190.95
80-90	472.27
90-100	93.45
100-110	60.35
110-120	38.67
120-130	31.52
130-140	14.35
140-150	6.12
150-160	0.64
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 RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	59	59	59	59	57	57	57	57	54	54	54	52	52	52	50	50	50	49
1	53	51	49	47	52	50	48	46	48	46	45	46	44	43	44	43	42	41
2	49	45	41	38	47	44	41	38	42	39	37	40	38	36	39	37	35	34
3	44	39	35	32	43	38	35	32	37	34	31	35	33	30	34	32	30	29
4	41	35	30	27	39	34	30	27	33	29	26	32	28	26	30	28	26	25
5	37	31	27	23	36	30	26	23	29	26	23	28	25	23	27	25	22	21
6	35	28	24	20	34	27	23	20	26	23	20	26	22	20	25	22	20	19
7	32	25	21	18	31	25	21	18	24	20	18	23	20	18	23	20	17	16
8	30	23	19	16	29	23	19	16	22	18	16	21	18	16	21	18	16	15
9	28	21	17	14	27	21	17	14	20	17	14	20	16	14	19	16	14	13
10	26	20	16	13	25	19	16	13	19	15	13	18	15	13	18	15	13	12

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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

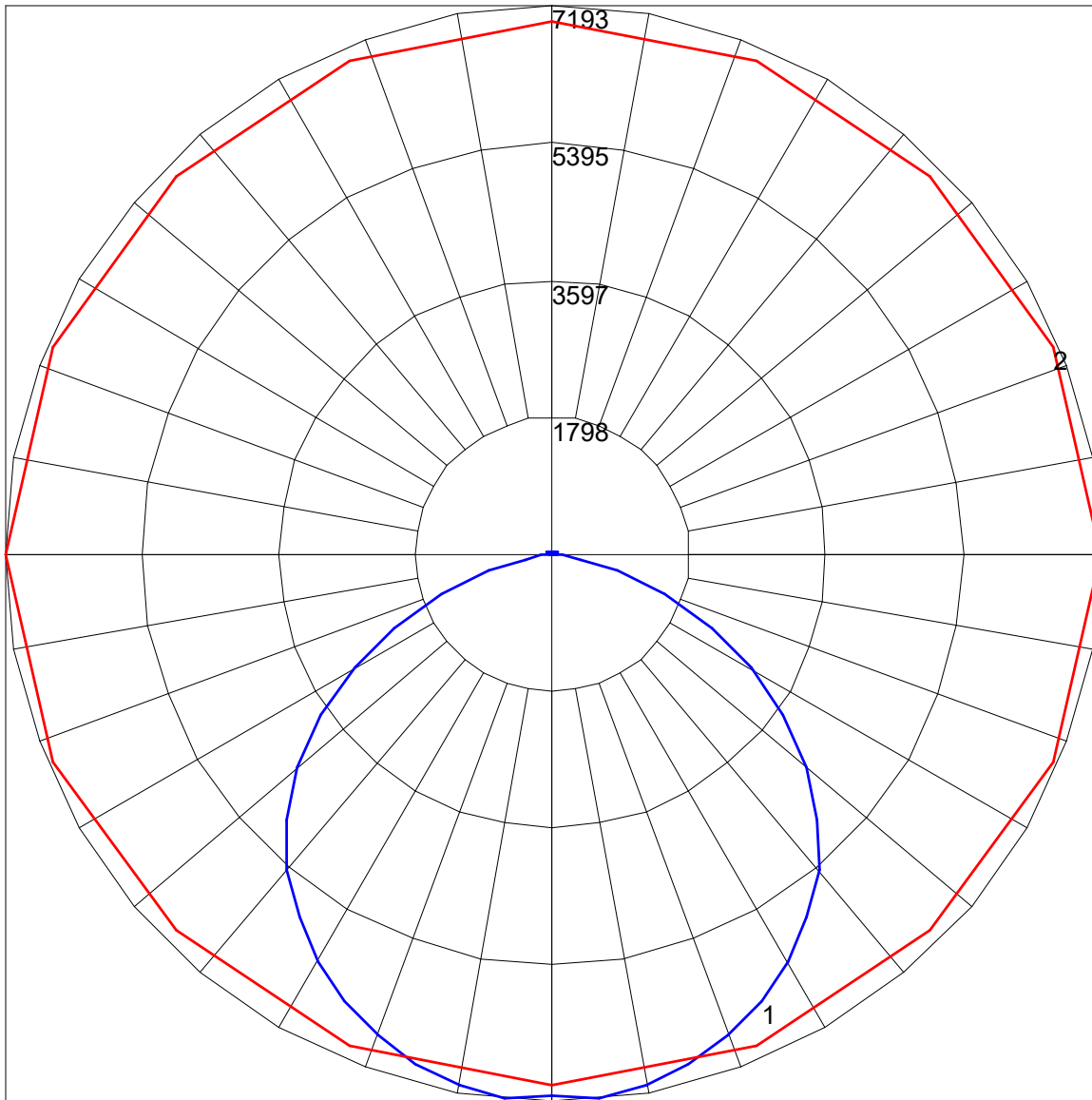
X=2H	Y=2H	23.0	24.6	23.4	24.9	25.3	23.9	25.5	24.3	25.9	26.2
	3H	23.9	25.3	24.3	25.7	26.1	25.3	26.7	25.7	27.1	27.5
	4H	24.2	25.5	24.6	25.9	26.3	25.8	27.2	26.2	27.6	28.0
	6H	24.3	25.6	24.7	25.9	26.4	26.3	27.5	26.7	27.9	28.3
	8H	24.3	25.5	24.7	25.9	26.4	26.5	27.7	26.9	28.1	28.5
	12H	24.3	25.5	24.8	25.9	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 = 7193.421 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.)