



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HZL-4-L145-840-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	14858
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	156
Total Luminaire Watts	95
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	11066	8493	8484
55	10025	6914	9049
65	8137	7763	7353
75	4735	4385	5477
85	1635	3118	3429

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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	5185.856	5185.856	5185.856	5185.856	5185.856
5	5246.254	5197.816	5113.498	5103.332	5097.352
10	5175.092	5099.744	5084.196	5076.422	5084.794
15	5059.080	5011.240	5036.954	5024.396	5019.014
20	4914.364	4891.640	4882.072	4877.288	4874.896
25	4725.396	4739.748	4712.838	4721.210	4725.994
30	4507.724	4504.734	4525.066	4543.604	4547.790
35	4248.192	4264.936	4273.308	4409.054	4072.978
40	3963.544	3965.338	4423.406	2849.470	2826.746
45	3598.166	3593.382	3104.218	2660.502	3160.430
50	3184.948	3214.250	2287.948	3532.386	3381.092
55	2701.764	2963.090	2186.886	2887.144	2935.582
60	2200.640	2111.538	2583.958	2501.434	2591.732
65	1673.802	1256.996	1998.516	2093.598	1959.048
70	1142.180	911.352	1566.162	1368.822	1078.194
75	642.252	647.634	836.602	774.410	1097.330
80	274.482	475.410	420.992	610.558	627.900
85	100.464	214.084	368.966	463.450	439.530
90	24.518	103.454	142.922	139.334	135.148
95	31.694	37.076	45.448	55.614	57.408
100	50.232	34.086	41.262	44.850	44.252
105	42.458	39.468	39.468	53.222	54.418
110	31.096	28.704	31.694	39.468	42.458
115	20.930	26.312	26.312	29.302	31.694
120	14.950	14.950	41.262	23.920	26.312
125	10.166	7.176	29.900	54.418	43.056
130	7.176	0.000	13.156	29.302	52.026
135	5.382	0.000	20.332	15.548	15.548
140	0.000	0.000	8.372	31.694	20.930
145	0.000	0.000	0.000	13.754	23.322
150	0.000	0.000	0.000	5.980	7.774
155	0.000	0.000	0.000	0.000	5.382
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	1907.7	N.A.	12.80
0-30	4086.37	N.A.	27.50
0-40	6706.51	N.A.	45.10
0-60	11680.51	N.A.	78.60
0-80	14334.95	N.A.	96.50
0-90	14679.39	N.A.	98.80
10-90	14189.4	N.A.	95.50
20-40	4798.8	N.A.	32.30
20-50	7331.47	N.A.	49.30
40-70	6759.87	N.A.	45.50
60-80	2654.44	N.A.	17.90
70-80	868.58	N.A.	5.80
80-90	344.43	N.A.	2.30
90-110	112.17	N.A.	0.80
90-120	140.37	N.A.	0.90
90-130	163.36	N.A.	1.10
90-150	178.29	N.A.	1.20
90-180	178.76	N.A.	1.20
110-180	66.59	N.A.	0.40
0-180	14858.14	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	489.99
10-20	1417.72
20-30	2178.66
30-40	2620.14
40-50	2532.66
50-60	2441.34
60-70	1785.86
70-80	868.58
80-90	344.43
90-100	68.16
100-110	44.01
110-120	28.20
120-130	22.98
130-140	10.47
140-150	4.47
150-160	0.47
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	116	116	116	116	110	110	110	105	105	105	101	101	101	99
1	108	104	99	96	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	90	84	78	96	88	82	77	85	79	75	81	77	73	78	74	71	69
3	90	80	71	65	87	78	70	64	75	68	63	72	66	62	69	64	60	58
4	82	70	62	55	80	69	61	55	66	59	54	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	55	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	44	40	38
7	65	51	43	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	33	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	35	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	27	52	39	32	26	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

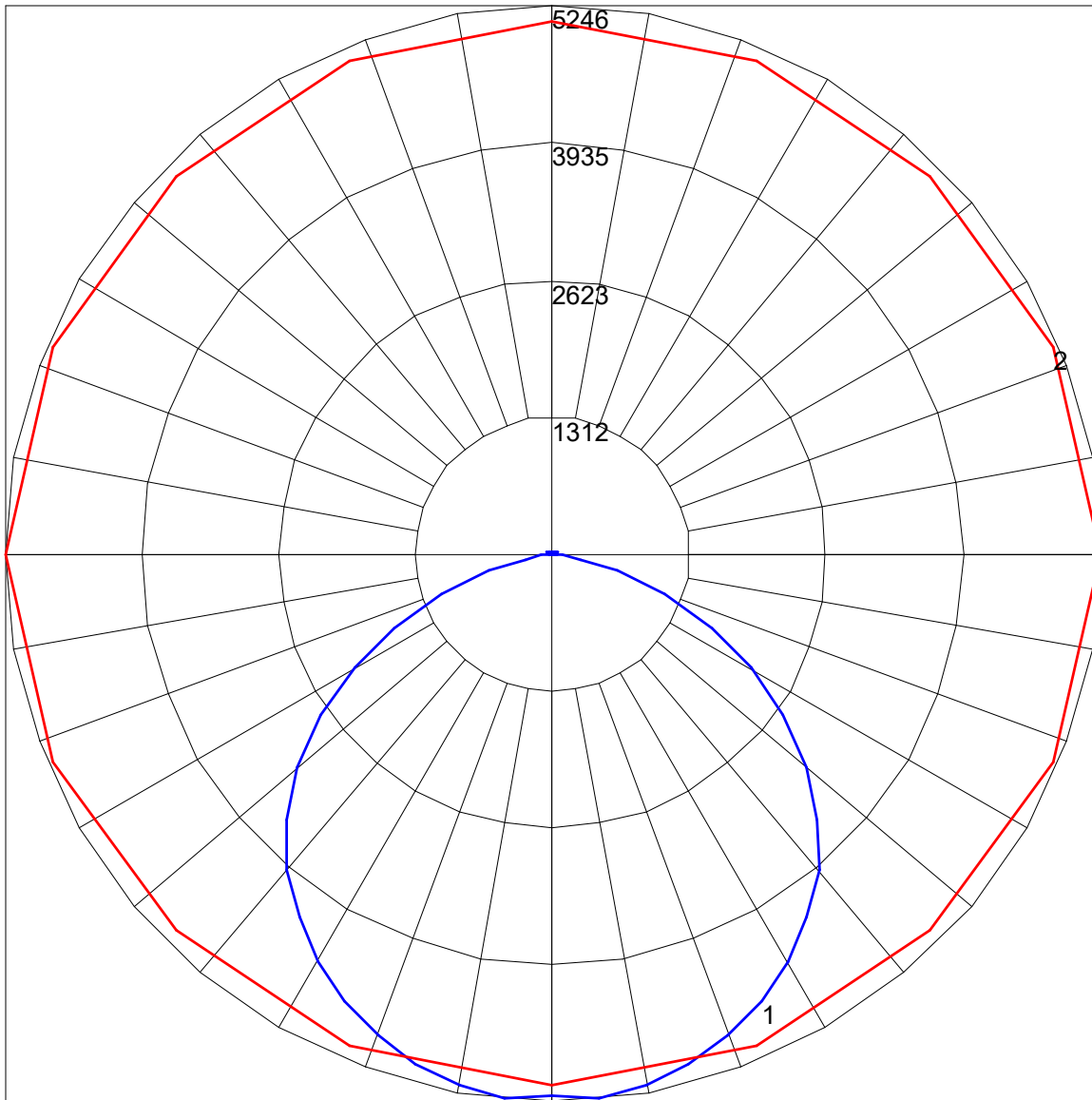
X=2H	Y=2H	19.5	21.1	19.9	21.4	21.8	20.4	22.0	20.8	22.4	22.7
	3H	20.4	21.8	20.8	22.2	22.6	21.8	23.2	22.2	23.6	24.0
	4H	20.7	22.0	21.1	22.4	22.8	22.3	23.7	22.7	24.1	24.5
	6H	20.8	22.1	21.2	22.4	22.9	22.8	24.0	23.2	24.4	24.8
	8H	20.8	22.0	21.2	22.4	22.9	23.0	24.2	23.4	24.6	25.0
	12H	20.8	22.0	21.3	22.4	22.8	23.2	24.3	23.6	24.7	25.2

### UGR Viewed Endwise

4H	2H	20.2	21.5	20.6	21.9	22.3	20.9	22.3	21.3	22.7	23.1
	3H	21.2	22.4	21.7	22.8	23.2	22.5	23.6	22.9	24.1	24.5
	4H	21.6	22.6	22.0	23.1	23.5	23.1	24.1	23.5	24.5	25.0
	6H	21.8	22.7	22.3	23.2	23.6	23.6	24.5	24.1	25.0	25.5
	8H	21.8	22.7	22.3	23.2	23.6	23.9	24.7	24.4	25.2	25.7
	12H	21.9	22.6	22.4	23.1	23.6	24.1	24.9	24.6	25.4	25.9
8H	4H	21.8	22.7	22.3	23.1	23.6	23.2	24.0	23.7	24.5	25.0
	6H	22.1	22.8	22.6	23.3	23.8	23.8	24.5	24.3	25.0	25.5
	8H	22.2	22.9	22.7	23.4	23.9	24.2	24.8	24.7	25.3	25.8
	12H	22.3	22.8	22.8	23.3	23.9	24.5	25.1	25.1	25.6	26.2
12H	4H	21.9	22.6	22.4	23.1	23.6	23.2	23.9	23.7	24.4	24.9
	6H	22.2	22.8	22.7	23.3	23.9	23.8	24.5	24.4	25.0	25.5
	8H	22.3	22.9	22.8	23.4	24.0	24.2	24.8	24.7	25.3	25.9

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 5246.254 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.)