



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HZL-4-L310-840-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] HZ2-4-L310-840-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	31824
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	154
Total Luminaire Watts	206
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	23703	18190	18172
55	21471	14809	19383
65	17429	16626	15750
75	10142	9392	11732
85	3502	6678	7344

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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	11107.445	11107.445	11107.445	11107.445	11107.445
5	11236.810	11133.062	10952.463	10930.689	10917.880
10	11084.390	10923.004	10889.702	10873.051	10890.983
15	10835.907	10733.440	10788.516	10761.618	10750.090
20	10525.943	10477.272	10456.778	10446.531	10441.408
25	10121.198	10151.938	10094.300	10112.232	10122.479
30	9654.972	9648.568	9692.117	9731.823	9740.788
35	9099.088	9134.951	9152.883	9443.634	8723.802
40	8489.408	8493.250	9474.374	6103.203	6054.531
45	7706.815	7696.568	6648.841	5698.457	6769.240
50	6821.754	6884.515	4900.494	7565.922	7241.870
55	5786.835	6346.562	4684.032	6183.896	6287.644
60	4713.491	4522.646	5534.510	5357.754	5551.161
65	3585.071	2692.326	4280.567	4484.221	4196.032
70	2446.404	1952.000	3354.520	2931.843	2309.355
75	1375.622	1387.150	1791.895	1658.688	2350.341
80	587.906	1018.268	901.711	1307.738	1344.882
85	215.181	458.541	790.278	992.651	941.417
90	52.514	221.585	306.121	298.436	289.470
95	67.885	79.412	97.344	119.118	122.961
100	107.591	73.008	88.378	96.063	94.782
105	90.940	84.535	84.535	113.995	116.556
110	66.604	61.480	67.885	84.535	90.940
115	44.829	56.357	56.357	62.761	67.885
120	32.021	32.021	88.378	51.234	56.357
125	21.774	15.370	64.042	116.556	92.220
130	15.370	0.000	28.178	62.761	111.433
135	11.528	0.000	43.549	33.302	33.302
140	0.000	0.000	17.932	67.885	44.829
145	0.000	0.000	0.000	29.459	49.953
150	0.000	0.000	0.000	12.808	16.651
155	0.000	0.000	0.000	0.000	11.528
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	4086.06	N.A.	12.80
0-30	8752.48	N.A.	27.50
0-40	14364.49	N.A.	45.10
0-60	25018.18	N.A.	78.60
0-80	30703.64	N.A.	96.50
0-90	31441.38	N.A.	98.80
10-90	30391.89	N.A.	95.50
20-40	10278.43	N.A.	32.30
20-50	15703.07	N.A.	49.30
40-70	14478.78	N.A.	45.50
60-80	5685.47	N.A.	17.90
70-80	1860.38	N.A.	5.80
80-90	737.73	N.A.	2.30
90-110	240.25	N.A.	0.80
90-120	300.66	N.A.	0.90
90-130	349.89	N.A.	1.10
90-150	381.87	N.A.	1.20
90-180	382.88	N.A.	1.20
110-180	142.62	N.A.	0.40
0-180	31824.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	1049.49
10-20	3036.57
20-30	4666.42
30-40	5612.01
40-50	5424.64
50-60	5229.05
60-70	3825.09
70-80	1860.38
80-90	737.73
90-100	145.98
100-110	94.27
110-120	60.41
120-130	49.23
130-140	22.42
140-150	9.57
150-160	1.00
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 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	91	91	91	91	89	89	89	89	85	85	85	81	81	81	78	78	78	76
1	84	80	77	74	81	78	75	72	75	72	70	71	69	68	68	67	65	64
2	76	70	64	60	74	68	63	59	65	61	58	63	59	56	60	57	55	53
3	69	61	55	50	67	60	54	49	58	53	48	55	51	47	53	50	47	45
4	63	54	48	42	62	53	47	42	51	46	41	49	44	41	47	43	40	38
5	58	48	42	36	57	48	41	36	46	40	36	44	39	35	43	38	35	33
6	54	44	37	32	52	43	36	32	41	36	31	40	35	31	39	34	31	29
7	50	40	33	28	49	39	32	28	38	32	28	36	31	27	35	31	27	26
8	47	36	30	25	45	36	29	25	34	29	25	33	28	25	32	28	24	23
9	43	33	27	23	42	33	27	22	32	26	22	31	26	22	30	25	22	21
10	41	31	24	20	40	30	24	20	29	24	20	29	24	20	28	23	20	19

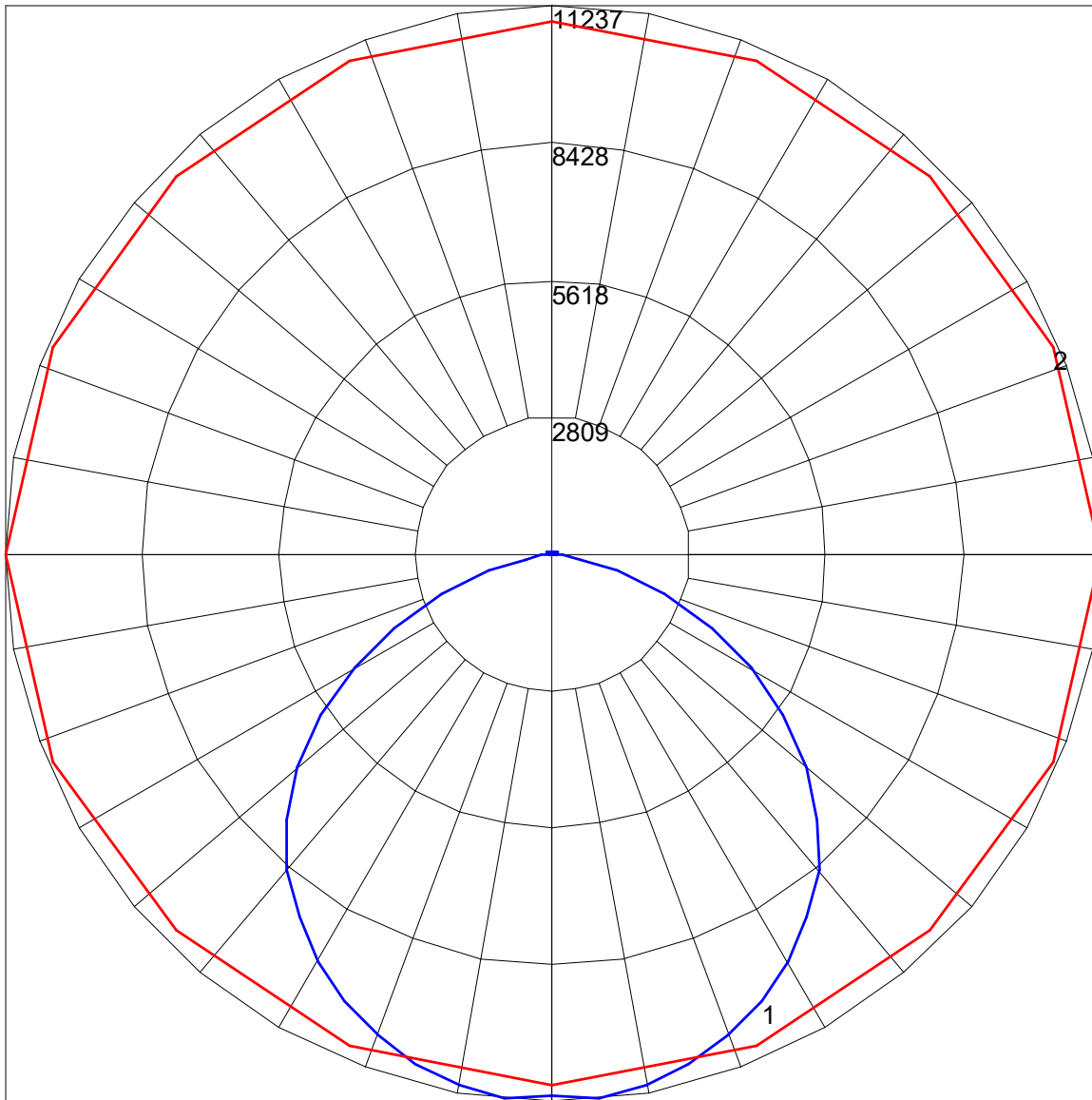
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UGR TABLE - CORRECTED

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	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
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 = 11236.81 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.)