



IES INDOOR REPORT  
PHOTOMETRIC FILENAME : HZL-4-L107-840-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] 3-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-L107-840-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	10752
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	158
Total Luminaire Watts	68
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	7420	6315	6211
55	6340	5314	5852
65	5186	4619	5047
75	3595	3654	4195
85	1567	2655	3244

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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>
<b>0</b>	3830.721	3830.721	3830.721	3830.721	3830.721
<b>5</b>	3878.644	3818.297	3792.117	3782.354	3778.805
<b>10</b>	3824.509	3769.043	3748.631	3740.200	3737.094
<b>15</b>	3726.445	3683.846	3671.866	3668.316	3663.435
<b>20</b>	3608.412	3568.920	3551.615	3554.277	3541.853
<b>25</b>	3449.113	3402.078	3389.653	3384.772	3381.223
<b>30</b>	3259.197	3220.592	3192.194	3177.994	3143.827
<b>35</b>	3020.470	2981.866	2955.686	2871.377	2830.110
<b>40</b>	2730.714	2702.316	2660.161	2557.660	2540.798
<b>45</b>	2412.560	2434.303	2308.283	2289.647	2313.608
<b>50</b>	2073.550	2056.245	1986.579	2081.537	2119.254
<b>55</b>	1708.804	1688.836	1680.849	1859.229	1898.277
<b>60</b>	1355.595	1375.563	1435.023	1599.647	1644.463
<b>65</b>	1066.727	1057.409	1189.196	1328.084	1344.502
<b>70</b>	747.241	788.064	945.589	1059.627	1080.483
<b>75</b>	487.659	543.569	697.100	804.039	840.425
<b>80</b>	266.682	328.804	491.209	588.386	614.566
<b>85</b>	96.289	176.161	314.161	395.807	415.775
<b>90</b>	43.929	100.727	192.135	249.376	263.132
<b>95</b>	39.936	76.765	133.119	164.180	170.392
<b>100</b>	38.605	61.235	102.945	124.244	128.238
<b>105</b>	34.167	47.923	85.196	104.277	110.045
<b>110</b>	27.511	35.055	70.997	90.965	96.733
<b>115</b>	21.299	25.736	57.685	78.984	85.196
<b>120</b>	15.531	16.862	46.148	66.559	74.103
<b>125</b>	11.537	9.762	35.055	55.466	61.235
<b>130</b>	7.987	7.100	24.849	42.598	49.698
<b>135</b>	6.212	0.000	15.531	32.392	37.273
<b>140</b>	0.000	0.000	8.431	21.299	26.624
<b>145</b>	0.000	0.000	0.000	13.756	16.862
<b>150</b>	0.000	0.000	0.000	5.768	7.987
<b>155</b>	0.000	0.000	0.000	0.000	5.768
<b>160</b>	0.000	0.000	0.000	0.000	0.000
<b>165</b>	0.000	0.000	0.000	0.000	0.000
<b>170</b>	0.000	0.000	0.000	0.000	0.000
<b>175</b>	0.000	0.000	0.000	0.000	0.000
<b>180</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1400.07	N.A.	13.00
0-30	2964.82	N.A.	27.60
0-40	4797.48	N.A.	44.60
0-60	8187.97	N.A.	76.20
0-80	10099.1	N.A.	93.90
0-90	10428.1	N.A.	97.00
10-90	10066.19	N.A.	93.60
20-40	3397.41	N.A.	31.60
20-50	5210.83	N.A.	48.50
40-70	4577.48	N.A.	42.60
60-80	1911.13	N.A.	17.80
70-80	724.14	N.A.	6.70
80-90	329.00	N.A.	3.10
90-110	220.98	N.A.	2.10
90-120	274.74	N.A.	2.60
90-130	305.76	N.A.	2.80
90-150	323.62	N.A.	3.00
90-180	324.10	N.A.	3.00
110-180	103.12	N.A.	1.00
0-180	10752.2	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	361.91
10-20	1038.16
20-30	1564.75
30-40	1832.66
40-50	1813.43
50-60	1577.06
60-70	1186.99
70-80	724.14
80-90	329.00
90-100	138.25
100-110	82.74
110-120	53.76
120-130	31.02
130-140	13.96
140-150	3.90
150-160	0.48
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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	108	103	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83	80
2	98	90	83	77	95	87	81	76	83	78	74	80	75	71	76	73	69	67
3	89	79	71	64	87	77	69	63	74	67	62	70	65	60	67	63	59	57
4	82	70	61	54	79	68	60	54	65	58	53	63	57	52	60	55	51	49
5	75	63	54	47	73	61	53	47	59	51	46	57	50	45	54	49	44	42
6	70	56	48	41	68	55	47	41	53	46	40	51	45	40	49	44	39	37
7	65	51	43	36	63	50	42	36	48	41	36	47	40	35	45	39	35	33
8	60	47	38	33	58	46	38	32	44	37	32	43	36	32	42	36	31	29
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	38	33	28	26
10	53	40	32	27	51	39	32	26	38	31	26	37	30	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	17.1	18.7	17.5	19.1	19.4	18.4	20.0	18.8	20.4	20.8
	3H	18.4	19.8	18.9	20.2	20.7	20.3	21.8	20.8	22.1	22.6
	4H	18.8	20.2	19.3	20.6	21.0	21.2	22.5	21.6	22.9	23.3
	6H	19.1	20.3	19.5	20.7	21.2	21.9	23.1	22.3	23.5	24.0
	8H	19.1	20.3	19.6	20.8	21.2	22.2	23.4	22.7	23.8	24.3
	12H	19.1	20.3	19.6	20.7	21.2	22.5	23.6	23.0	24.1	24.6

### UGR Viewed Endwise

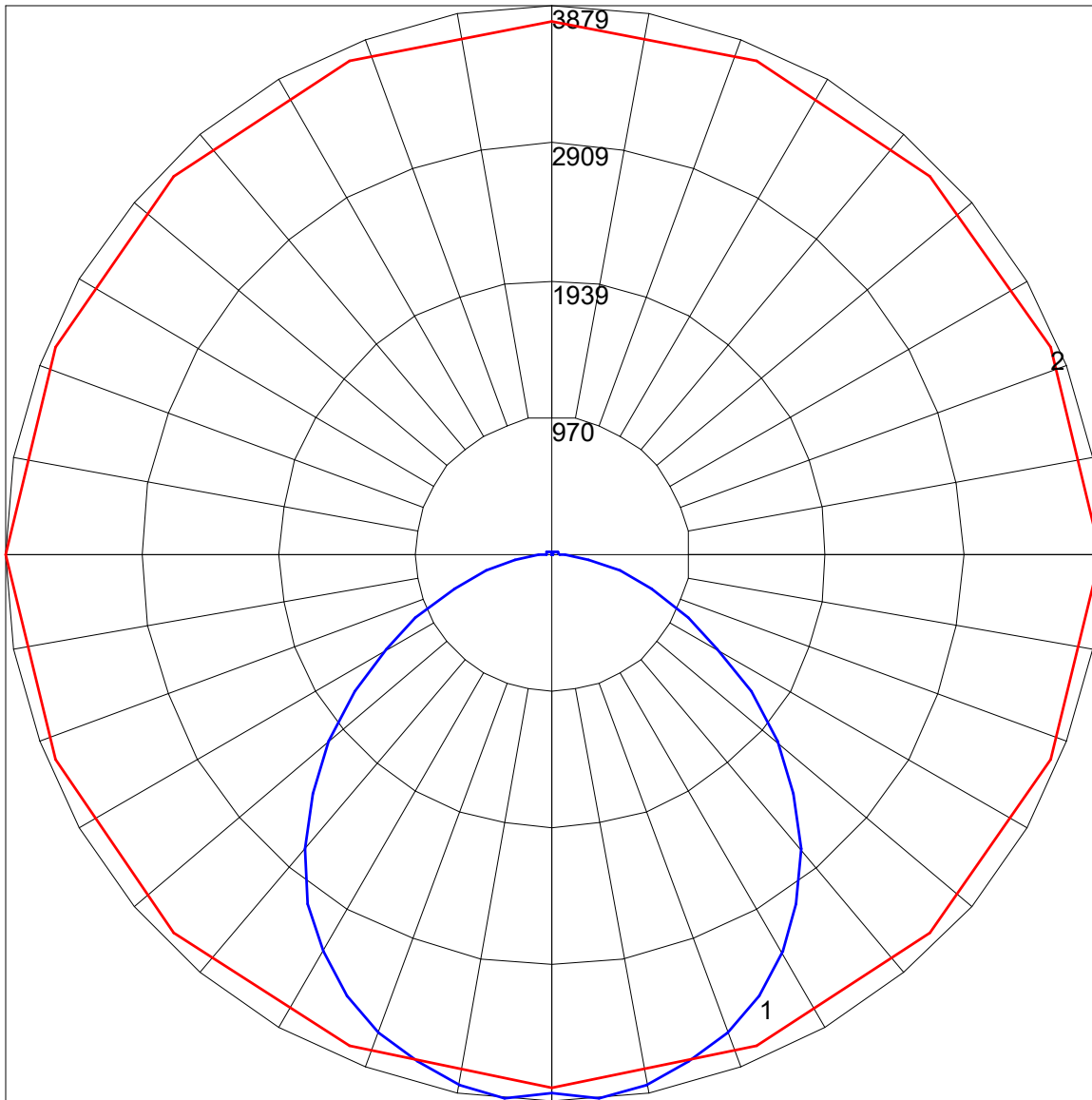
4H	2H	17.8	19.1	18.2	19.5	20.0	18.8	20.2	19.3	20.6	21.0
	3H	19.3	20.4	19.8	20.9	21.4	21.0	22.1	21.5	22.6	23.0
	4H	19.8	20.8	20.3	21.3	21.8	22.0	23.0	22.4	23.4	23.9
	6H	20.2	21.0	20.7	21.5	22.1	22.8	23.7	23.3	24.2	24.8
	8H	20.2	21.1	20.7	21.6	22.1	23.2	24.1	23.7	24.6	25.1
	12H	20.3	21.0	20.8	21.5	22.1	23.6	24.4	24.2	24.9	25.4

8H	4H	20.3	21.1	20.8	21.6	22.1	22.1	23.0	22.6	23.5	24.0
	6H	20.7	21.4	21.2	21.9	22.5	23.2	23.9	23.7	24.4	24.9
	8H	20.8	21.4	21.4	22.0	22.6	23.7	24.3	24.2	24.9	25.4
	12H	20.9	21.5	21.4	22.0	22.6	24.2	24.7	24.7	25.3	25.9

12H	4H	20.3	21.1	20.9	21.6	22.2	22.1	22.9	22.7	23.4	24.0
	6H	20.8	21.5	21.4	22.0	22.6	23.2	23.8	23.8	24.3	24.9
	8H	21.0	21.6	21.6	22.1	22.7	23.7	24.3	24.3	24.8	25.5

Maximum UGR = 25.9

POLAR GRAPH



Maximum Candela = 3878.644 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.)