



IES INDOOR REPORT  
PHOTOMETRIC FILENAME : HZL-4-L145-840-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] 4-DEC-2024  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
[LUMINAIRE] FULLY SEALED & GASKETED LED LUMINAIRE  
[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC DROP LENS  
[LUMCAT] HZL-4-L145-840-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	14567
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	153
Total Luminaire Watts	95
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	10052	8555	8414
55	8590	7199	7928
65	7026	6258	6837
75	4871	4950	5683
85	2123	3597	4394

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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>	5189.728	5189.728	5189.728	5189.728	5189.728
<b>5</b>	5254.652	5172.896	5137.428	5124.202	5119.393
<b>10</b>	5181.312	5106.168	5078.515	5067.093	5062.885
<b>15</b>	5048.458	4990.747	4974.516	4969.707	4963.094
<b>20</b>	4888.552	4835.049	4811.604	4815.211	4798.379
<b>25</b>	4672.739	4609.017	4592.185	4585.572	4580.763
<b>30</b>	4415.447	4363.147	4324.673	4305.436	4259.148
<b>35</b>	4092.028	4039.728	4004.260	3890.041	3834.135
<b>40</b>	3699.477	3661.003	3603.894	3465.028	3442.185
<b>45</b>	3268.452	3297.909	3127.182	3101.934	3134.396
<b>50</b>	2809.174	2785.729	2691.348	2819.995	2871.092
<b>55</b>	2315.029	2287.977	2277.156	2518.818	2571.720
<b>60</b>	1836.513	1863.565	1944.119	2167.146	2227.862
<b>65</b>	1445.165	1432.540	1611.082	1799.242	1821.484
<b>70</b>	1012.337	1067.642	1281.051	1435.546	1463.800
<b>75</b>	660.664	736.409	944.407	1089.284	1138.578
<b>80</b>	361.291	445.452	665.473	797.125	832.593
<b>85</b>	130.450	238.657	425.614	536.226	563.278
<b>90</b>	59.514	136.461	260.298	337.846	356.482
<b>95</b>	54.103	103.999	180.345	222.425	230.842
<b>100</b>	52.300	82.959	139.467	168.322	173.732
<b>105</b>	46.289	64.924	115.421	141.270	149.085
<b>110</b>	37.271	47.491	96.184	123.236	131.051
<b>115</b>	28.855	34.867	78.149	107.005	115.421
<b>120</b>	21.040	22.844	62.520	90.172	100.392
<b>125</b>	15.630	13.225	47.491	75.144	82.959
<b>130</b>	10.821	9.618	33.664	57.710	67.329
<b>135</b>	8.416	0.000	21.040	43.884	50.497
<b>140</b>	0.000	0.000	11.422	28.855	36.069
<b>145</b>	0.000	0.000	0.000	18.636	22.844
<b>150</b>	0.000	0.000	0.000	7.815	10.821
<b>155</b>	0.000	0.000	0.000	0.000	7.815
<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	1896.77	N.A.	13.00
0-30	4016.64	N.A.	27.60
0-40	6499.46	N.A.	44.60
0-60	11092.77	N.A.	76.20
0-80	13681.9	N.A.	93.90
0-90	14127.63	N.A.	97.00
10-90	13637.32	N.A.	93.60
20-40	4602.69	N.A.	31.60
20-50	7059.46	N.A.	48.50
40-70	6201.41	N.A.	42.60
60-80	2589.13	N.A.	17.80
70-80	981.03	N.A.	6.70
80-90	445.72	N.A.	3.10
90-110	299.38	N.A.	2.10
90-120	372.21	N.A.	2.60
90-130	414.24	N.A.	2.80
90-150	438.43	N.A.	3.00
90-180	439.07	N.A.	3.00
110-180	139.70	N.A.	1.00
0-180	14566.7	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	490.31
10-20	1406.47
20-30	2119.86
30-40	2482.82
40-50	2456.77
50-60	2136.54
60-70	1608.1
70-80	981.03
80-90	445.72
90-100	187.29
100-110	112.09
110-120	72.83
120-130	42.03
130-140	18.91
140-150	5.28
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	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	107	103	98	94	104	100	96	92	95	92	89	91	88	86	87	85	83	80
2	98	89	83	77	95	87	81	76	83	78	73	80	75	71	76	73	69	67
3	89	79	71	64	86	77	69	63	73	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	48
5	75	63	54	47	73	61	53	47	59	51	46	56	50	45	54	49	44	42
6	70	56	47	41	67	55	47	41	53	46	40	51	45	40	49	44	39	37
7	65	51	42	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	41	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

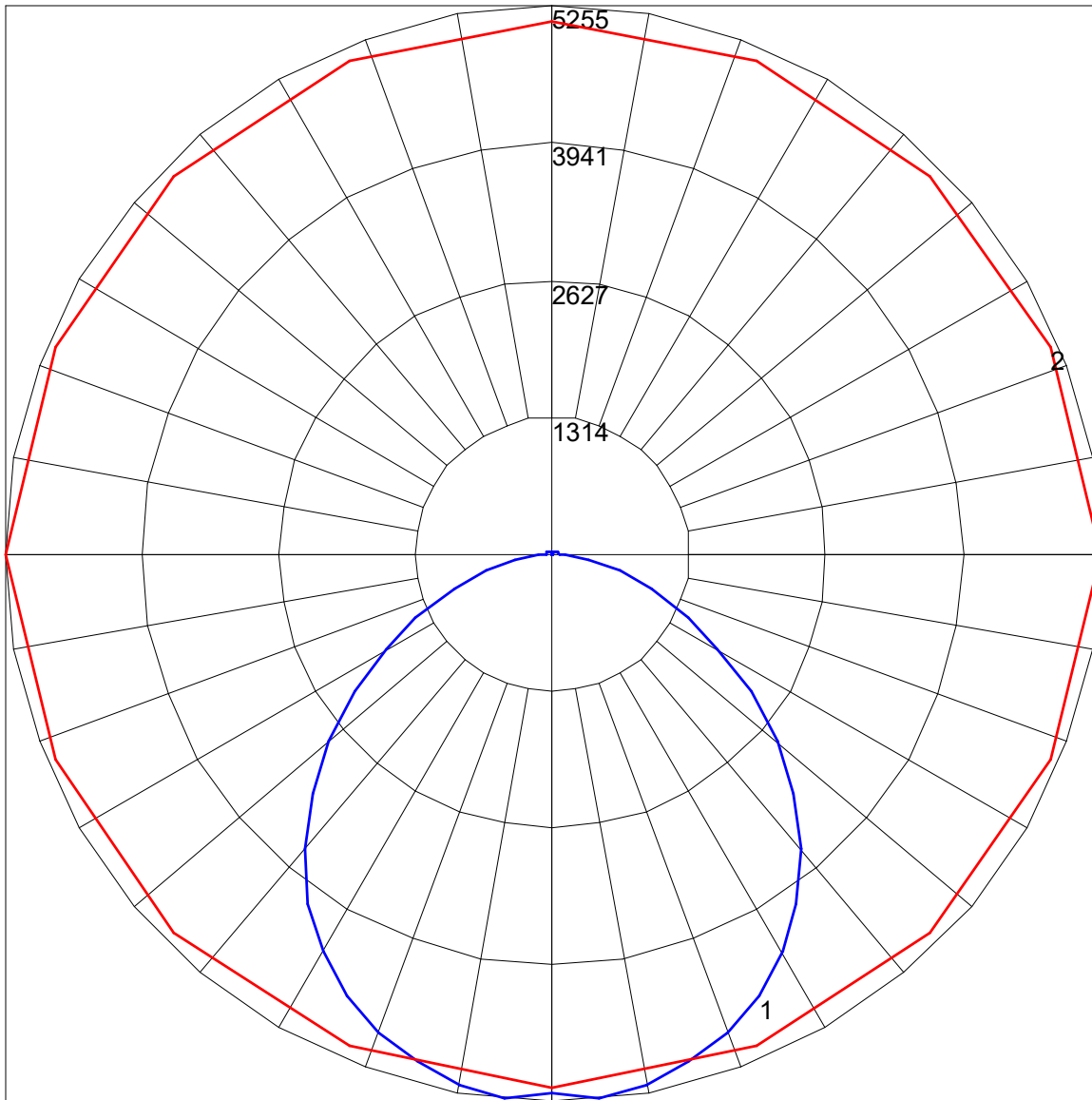
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**UGR TABLE - CORRECTED**

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					UGR Viewed Endwise				
X=2H	Y=2H	18.1	19.7	18.5	20.1	20.4	19.4	21.0	19.8	21.4	21.8
	3H	19.4	20.8	19.9	21.2	21.7	21.3	22.8	21.8	23.1	23.6
	4H	19.8	21.2	20.3	21.6	22.0	22.2	23.5	22.6	23.9	24.3
	6H	20.1	21.3	20.5	21.7	22.2	22.9	24.1	23.3	24.5	25.0
	8H	20.1	21.3	20.6	21.8	22.2	23.2	24.4	23.7	24.8	25.3
	12H	20.1	21.3	20.6	21.7	22.2	23.5	24.6	24.0	25.1	25.6
4H	2H	18.8	20.1	19.2	20.5	21.0	19.8	21.2	20.3	21.6	22.0
	3H	20.3	21.4	20.8	21.9	22.4	22.0	23.1	22.5	23.6	24.0
	4H	20.8	21.8	21.3	22.3	22.8	23.0	24.0	23.4	24.4	24.9
	6H	21.2	22.0	21.7	22.5	23.1	23.8	24.7	24.3	25.2	25.8
	8H	21.2	22.1	21.7	22.6	23.1	24.2	25.1	24.7	25.6	26.1
	12H	21.3	22.0	21.8	22.5	23.1	24.6	25.4	25.2	25.9	26.4
8H	4H	21.3	22.1	21.8	22.6	23.1	23.1	24.0	23.6	24.5	25.0
	6H	21.7	22.4	22.2	22.9	23.5	24.2	24.9	24.7	25.4	25.9
	8H	21.8	22.5	22.4	23.0	23.6	24.7	25.3	25.2	25.9	26.4
	12H	21.9	22.5	22.4	23.0	23.6	25.2	25.7	25.7	26.3	26.9
12H	4H	21.3	22.1	21.9	22.6	23.2	23.1	23.9	23.7	24.4	25.0
	6H	21.8	22.5	22.4	23.0	23.6	24.2	24.8	24.8	25.3	25.9
	8H	22.0	22.6	22.6	23.1	23.7	24.7	25.3	25.3	25.8	26.5

Maximum UGR = 26.9

POLAR GRAPH



Maximum Candela = 5254.652 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.)