



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-940-HIAFR-(L30)-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST]GEN FROM BALLABS TEST NO. 20205.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUE DATE] 03-15-2023  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4'ENCLOSED & GASKETED LUMINAIRE  
 [MORE] WHITE FLAT REFL w/HIAFR RIBBED ACRYLIC DROP LENS  
 [MORE] OT150/120-277/1A4 DIM-1-G2 #57452  
 [LUMCAT] 96-4-L40-940-HIAFR-(L30)-DIM-UNV  
 [LAMPCAT] HLM2256\_5630 REV A 10560223

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2650
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	128
Total Luminaire Watts	20.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.17 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	4032	3205	3044
55	3332	2692	2717
65	2646	2227	2376
75	1701	1833	2027
85	707	1494	1664

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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>	949.208	949.208	949.208	949.208	949.208
<b>5</b>	968.059	944.344	938.263	929.750	926.101
<b>10</b>	954.073	928.534	917.588	904.819	899.954
<b>15</b>	929.142	900.562	887.185	865.294	860.429
<b>20</b>	895.698	864.078	843.403	820.296	812.391
<b>25</b>	854.956	818.472	784.419	764.961	758.880
<b>30</b>	805.094	767.393	728.476	723.004	724.220
<b>35</b>	746.111	704.761	678.006	685.911	685.911
<b>40</b>	671.925	631.184	628.144	629.968	629.360
<b>45</b>	585.578	555.174	566.120	561.863	567.336
<b>50</b>	490.110	478.557	492.542	495.583	510.177
<b>55</b>	398.899	403.763	420.181	434.167	454.842
<b>60</b>	318.024	329.578	350.252	378.224	396.466
<b>65</b>	239.582	256.000	291.269	327.145	340.523
<b>70</b>	164.789	188.504	237.758	279.107	286.404
<b>75</b>	99.725	130.129	186.072	224.989	232.894
<b>80</b>	48.038	86.347	138.642	173.910	183.031
<b>85</b>	17.634	55.335	103.373	133.777	138.034
<b>90</b>	6.689	34.660	75.402	99.725	104.589
<b>95</b>	6.689	23.715	60.200	81.482	84.523
<b>100</b>	5.473	13.378	47.430	65.064	68.713
<b>105</b>	4.257	7.905	34.660	51.687	54.119
<b>110</b>	3.648	4.257	24.931	40.741	42.565
<b>115</b>	2.432	1.824	15.810	29.796	34.660
<b>120</b>	1.824	0.608	8.513	21.891	24.931
<b>125</b>	0.000	0.000	1.824	13.378	16.418
<b>130</b>	0.000	0.000	0.000	6.689	8.513
<b>135</b>	0.000	0.000	0.000	0.608	3.648
<b>140</b>	0.000	0.000	0.000	0.000	0.000
<b>145</b>	0.000	0.000	0.000	0.000	0.000
<b>150</b>	0.000	0.000	0.000	0.000	0.000
<b>155</b>	0.000	0.000	0.000	0.000	0.000
<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	339.03	N.A.	12.80
0-30	705.78	N.A.	26.60
0-40	1140.23	N.A.	43.00
0-60	1953.56	N.A.	73.70
0-80	2431.8	N.A.	91.80
0-90	2535.42	N.A.	95.70
10-90	2446.32	N.A.	92.30
20-40	801.20	N.A.	30.20
20-50	1236.87	N.A.	46.70
40-70	1102.76	N.A.	41.60
60-80	478.24	N.A.	18.00
70-80	188.81	N.A.	7.10
80-90	103.62	N.A.	3.90
90-110	91.32	N.A.	3.40
90-120	108.09	N.A.	4.10
90-130	113.88	N.A.	4.30
90-150	114.67	N.A.	4.30
90-180	114.67	N.A.	4.30
110-180	23.35	N.A.	0.90
0-180	2650.09	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	89.10
10-20	249.93
20-30	366.75
30-40	434.45
40-50	435.67
50-60	377.66
60-70	289.43
70-80	188.81
80-90	103.62
90-100	58.02
100-110	33.30
110-120	16.77
120-130	5.79
130-140	0.79
140-150	0.00
150-160	0.00
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	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	103	103	103	98	98	98	96
1	107	102	97	93	104	99	95	91	94	91	88	89	87	84	85	83	81	78
2	97	89	82	76	94	86	80	75	82	77	72	78	74	70	75	71	68	65
3	89	78	70	63	86	76	68	62	72	66	61	69	64	59	66	61	57	55
4	81	69	60	54	79	68	59	53	64	57	52	62	56	51	59	54	49	47
5	75	62	53	46	72	61	52	46	58	51	45	55	49	44	53	48	43	41
6	69	56	47	40	67	55	46	40	52	45	39	50	44	39	48	43	38	36
7	64	51	42	36	62	50	41	35	48	40	35	46	39	34	44	38	34	32
8	60	46	38	32	58	45	37	32	44	36	31	42	36	31	41	35	30	28
9	56	42	34	29	54	42	34	29	40	33	28	39	32	28	38	32	27	26
10	52	39	31	26	51	39	31	26	37	30	26	36	30	25	35	29	25	23

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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	14.2	15.8	14.7	16.2	16.6	15.8	17.3	16.2	17.7	18.2
	3H	15.4	16.8	15.9	17.2	17.7	18.0	19.5	18.5	19.9	20.3
	4H	15.7	17.1	16.2	17.5	18.0	19.1	20.4	19.5	20.8	21.3
	6H	15.9	17.1	16.4	17.6	18.1	20.0	21.3	20.5	21.7	22.2
	8H	15.9	17.1	16.4	17.6	18.0	20.5	21.7	21.0	22.1	22.6
	12H	15.9	17.0	16.4	17.5	18.0	20.9	22.1	21.4	22.6	23.1

### UGR Viewed Endwise

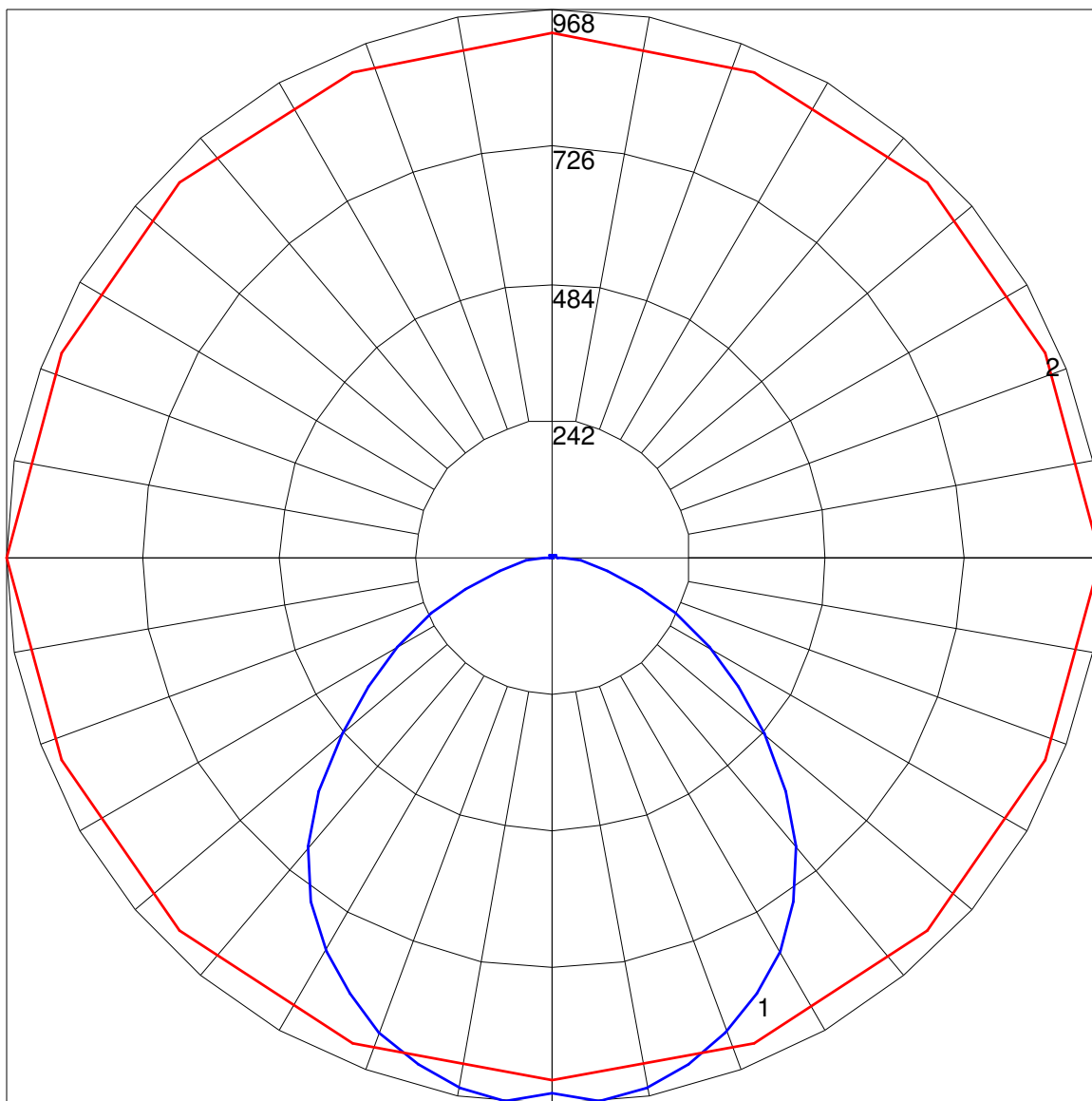
4H	2H	14.9	16.3	15.4	16.7	17.2	16.2	17.5	16.7	18.0	18.4
	3H	16.4	17.5	16.8	18.0	18.5	18.7	19.8	19.2	20.3	20.8
	4H	16.8	17.8	17.3	18.3	18.8	19.9	20.9	20.4	21.4	21.9
	6H	17.0	18.0	17.6	18.5	19.0	21.0	21.9	21.5	22.4	22.9
	8H	17.1	17.9	17.6	18.5	19.0	21.6	22.4	22.1	22.9	23.5
	12H	17.1	17.9	17.7	18.4	19.0	22.1	22.9	22.7	23.4	24.0

8H	4H	17.4	18.2	17.9	18.7	19.3	20.0	20.9	20.6	21.4	21.9
	6H	17.8	18.5	18.3	19.0	19.6	21.3	22.0	21.9	22.6	23.2
	8H	17.9	18.5	18.5	19.1	19.7	22.0	22.6	22.6	23.2	23.8
	12H	17.9	18.5	18.5	19.1	19.7	22.7	23.3	23.3	23.9	24.5

12H	4H	17.5	18.3	18.0	18.8	19.4	20.0	20.8	20.6	21.3	21.9
	6H	18.0	18.6	18.5	19.2	19.8	21.3	22.0	21.9	22.5	23.1
	8H	18.2	18.8	18.7	19.3	20.0	22.1	22.7	22.6	23.2	23.9

Maximum UGR = 24.5

POLAR GRAPH



Maximum Candela = 968.059 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.)