



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L40-840-DFR-DRV-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20010.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 30 JUNE 2022  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4' VAPORTITE LUMINAIRE  
 [MORE] WHITE FLAT REFLECTOR w/DFR LENS  
 [LUMCAT] 96-4-L40-840-DFR-DRV-UNV  
 [LAMPCAT] HLM 80 CRI 4000K CCT

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4290
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	30
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.28
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	4.25 ft
Luminous Width (90-270)	0.50 ft
Luminous Height	0.27 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6233	4719	4503
55	5391	4094	3896
65	4266	3350	3260
75	2803	2460	2209
85	1256	1485	1197

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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	1436.648	1436.648	1436.648	1436.648	1436.648
5	1461.997	1430.945	1427.143	1415.102	1417.003
10	1444.887	1410.666	1404.329	1388.486	1389.753
15	1413.834	1375.811	1361.236	1348.561	1344.125
20	1366.305	1327.015	1308.637	1294.695	1290.259
25	1307.369	1263.009	1245.264	1237.026	1233.224
30	1232.590	1185.694	1176.189	1181.892	1183.160
35	1142.601	1095.072	1102.677	1127.392	1126.125
40	1041.206	986.072	1026.630	1062.752	1056.415
45	926.502	883.409	941.711	965.159	970.229
50	802.926	788.351	846.019	880.874	872.002
55	666.676	681.251	747.792	790.885	783.281
60	534.228	562.112	643.862	689.490	690.124
65	404.949	439.803	536.763	585.559	588.728
70	285.175	324.466	430.297	467.687	467.687
75	177.442	230.041	327.001	347.280	341.576
80	91.256	156.529	230.041	241.448	233.844
85	37.390	100.128	150.826	157.163	148.291
90	17.111	66.541	103.297	105.198	98.227
95	12.674	46.262	77.314	74.779	72.244
100	11.407	32.320	60.837	61.471	60.837
105	9.506	22.180	48.163	52.599	52.599
110	7.605	14.576	36.756	45.628	47.529
115	5.704	8.872	24.715	34.221	37.390
120	4.436	5.704	17.111	25.349	27.250
125	4.436	4.436	12.674	19.012	20.279
130	1.901	1.901	8.238	12.674	13.942
135	0.000	0.000	5.070	9.506	10.140
140	0.000	0.000	3.169	7.605	8.238
145	0.000	0.000	1.267	4.436	5.070
150	0.000	0.000	0.000	1.901	4.436
155	0.000	0.000	0.000	0.000	1.901
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	520.94	N.A.	12.10
0-30	1099.34	N.A.	25.60
0-40	1796.48	N.A.	41.90
0-60	3176.09	N.A.	74.00
0-80	3996.44	N.A.	93.10
0-90	4141.24	N.A.	96.50
10-90	4005.64	N.A.	93.40
20-40	1275.54	N.A.	29.70
20-50	1997.74	N.A.	46.60
40-70	1888.7	N.A.	44.00
60-80	820.35	N.A.	19.10
70-80	311.27	N.A.	7.30
80-90	144.80	N.A.	3.40
90-110	109.84	N.A.	2.60
90-120	132.70	N.A.	3.10
90-130	143.50	N.A.	3.30
90-150	149.07	N.A.	3.50
90-180	149.25	N.A.	3.50
110-180	39.41	N.A.	0.90
0-180	4290.5	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	135.61
10-20	385.33
20-30	578.41
30-40	697.14
40-50	722.20
50-60	657.41
60-70	509.08
70-80	311.27
80-90	144.80
90-100	68.58
100-110	41.26
110-120	22.86
120-130	10.81
130-140	4.14
140-150	1.42
150-160	0.19
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	102	98	94	104	100	95	92	95	91	88	90	87	85	86	84	82	79
2	97	89	82	76	94	87	80	75	82	77	72	79	74	70	75	71	68	66
3	89	78	69	63	86	76	68	62	72	66	60	69	64	59	66	61	57	55
4	81	69	60	53	78	67	59	52	64	57	51	62	55	50	59	54	49	47
5	74	61	52	46	72	60	52	45	58	50	44	55	49	44	53	47	43	40
6	69	55	46	40	67	54	46	39	52	44	39	50	43	38	48	42	38	35
7	64	50	41	35	62	49	41	35	47	40	34	45	39	34	44	38	33	31
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	55	42	34	28	54	41	33	28	40	33	28	38	32	27	37	31	27	25
10	52	39	31	25	50	38	30	25	37	30	25	36	29	25	34	29	24	23

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**UGR TABLE - CORRECTED**

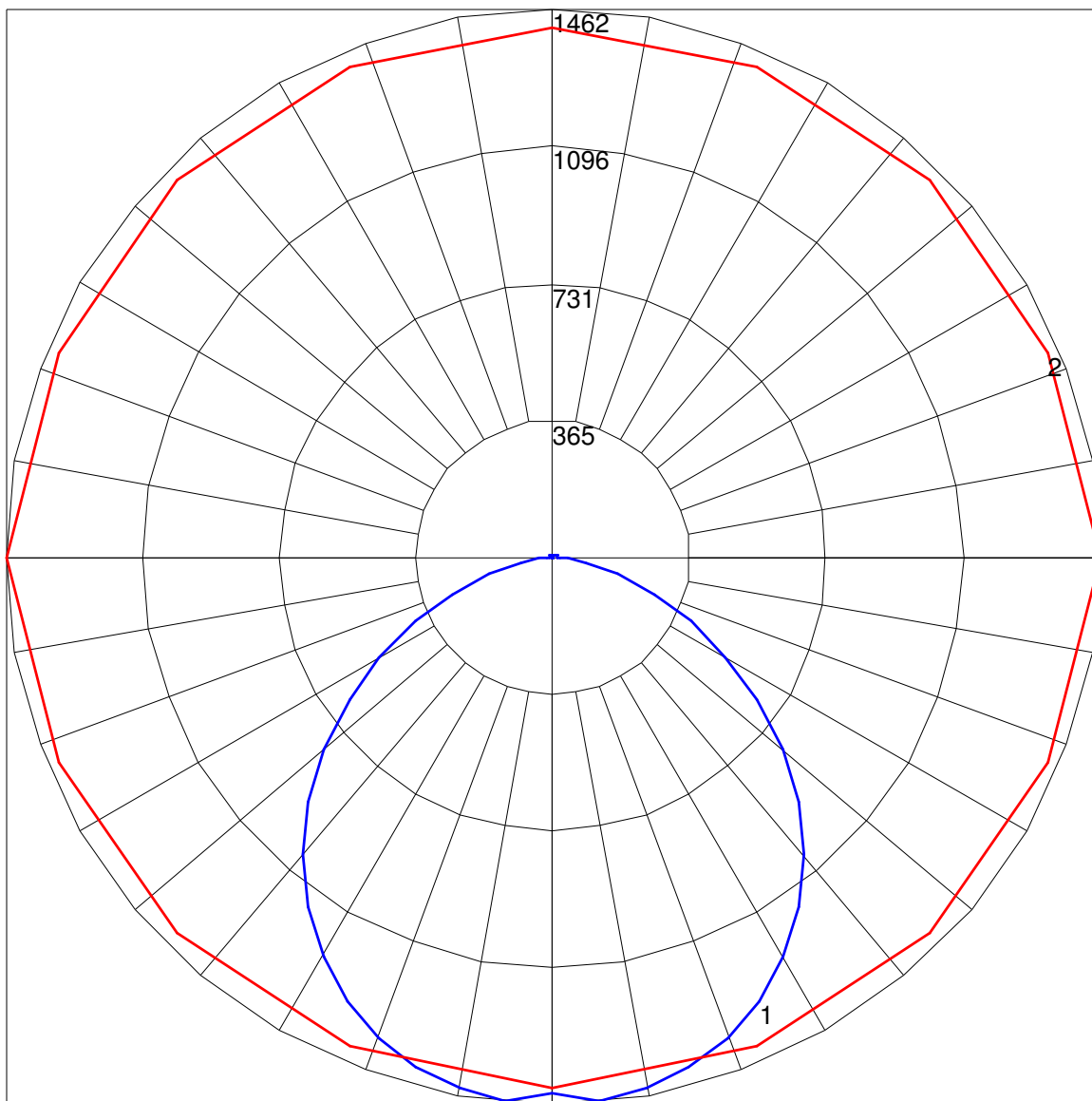
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	15.6	17.1	16.0	17.5	17.9	17.9	19.4	18.3	19.8	20.2
	3H	16.7	18.1	17.2	18.5	19.0	19.9	21.3	20.3	21.7	22.2
	4H	17.0	18.4	17.5	18.8	19.3	20.6	22.0	21.1	22.4	22.9
	6H	17.2	18.4	17.7	18.9	19.4	21.3	22.5	21.7	22.9	23.4
	8H	17.2	18.4	17.7	18.9	19.4	21.5	22.7	22.0	23.2	23.7
	12H	17.2	18.4	17.7	18.8	19.3	21.7	22.9	22.2	23.3	23.9
4H	2H	16.4	17.7	16.9	18.2	18.6	18.2	19.6	18.7	20.0	20.5
	3H	17.8	18.9	18.3	19.4	19.9	20.5	21.6	20.9	22.0	22.5
	4H	18.2	19.2	18.7	19.7	20.2	21.3	22.4	21.8	22.9	23.4
	6H	18.5	19.3	19.0	19.9	20.4	22.1	23.0	22.6	23.5	24.1
	8H	18.5	19.3	19.0	19.9	20.4	22.4	23.3	22.9	23.8	24.3
	12H	18.5	19.3	19.1	19.8	20.4	22.7	23.5	23.3	24.0	24.6
8H	4H	18.7	19.6	19.2	20.1	20.6	21.5	22.3	22.0	22.8	23.4
	6H	19.1	19.8	19.7	20.4	20.9	22.4	23.1	22.9	23.6	24.2
	8H	19.2	19.9	19.8	20.4	21.0	22.8	23.4	23.3	24.0	24.5
	12H	19.3	19.9	19.9	20.4	21.1	23.2	23.7	23.7	24.3	24.9
12H	4H	18.8	19.6	19.3	20.1	20.7	21.5	22.2	22.0	22.8	23.4
	6H	19.3	19.9	19.8	20.4	21.1	22.4	23.0	23.0	23.6	24.2
	8H	19.4	20.0	20.0	20.6	21.2	22.8	23.4	23.4	24.0	24.6

Maximum UGR = 24.9

POLAR GRAPH



Maximum Candela = 1461.997 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.)