



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : 29-4-L52-930-AF-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20306.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 12-MAR-2020  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2-56LED-TOP & 2-56LED-BTM 22"ARRAYS 4' LED  
 [MORE] WHITE REFL W/CLEAR PRISMATIC DIFFUSER TOP/BTM  
 [LUMCAT] 29-4-L54-930-AF-DIM-UNV  
 [LAMPCAT] HLM 90 CRI 3000K CCT  
 [ \_SEARCH\_SOURCETYPE] LED  
 [ \_SEARCH\_APPLICATION] Indoor, Corridor, Healthcare, Direct-Indirect  
 [ \_SEARCH\_MOUNTING] Wall

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4502
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	46
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.40 ft
Luminous Width (90-270)	3.96 ft
Luminous Height	0.23 ft

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	7581	5803	3426
55	8130	6148	3343
65	7628	5773	3156
75	6990	4946	2952
85	6216	4247	2851

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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>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
<b>0</b>	470.926	470.926	470.926	470.926	470.926	470.926	470.926	470.926	470.926
<b>5</b>	464.658	455.047	462.151	454.211	474.686	415.351	400.726	386.518	381.922
<b>10</b>	530.262	511.876	502.265	471.761	473.433	406.993	381.922	364.372	360.193
<b>15</b>	611.744	585.419	546.558	488.894	470.926	396.129	360.193	343.479	335.540
<b>20</b>	712.865	671.080	600.880	505.608	465.911	378.161	336.793	316.736	309.633
<b>25</b>	833.626	780.558	658.126	523.158	456.719	360.193	311.722	287.486	278.711
<b>30</b>	952.298	884.187	722.476	534.858	443.765	338.465	280.383	253.222	241.940
<b>35</b>	1070.134	985.309	783.483	542.797	425.797	308.379	246.536	218.122	204.750
<b>40</b>	1168.330	1073.059	833.208	541.962	402.815	274.950	210.600	182.186	167.561
<b>45</b>	1233.098	1132.812	867.055	532.769	373.565	240.268	177.172	147.922	133.714
<b>50</b>	1263.184	1157.466	871.651	509.787	339.718	204.750	142.072	114.075	101.957
<b>55</b>	1241.038	1132.812	844.073	475.940	302.529	171.322	109.479	84.407	73.961
<b>60</b>	1159.973	1060.941	782.230	428.722	261.997	136.639	78.557	54.739	45.546
<b>65</b>	1052.584	961.491	698.658	369.386	218.540	104.047	49.725	29.250	20.893
<b>70</b>	946.448	859.116	601.297	307.125	176.336	71.036	21.311	3.761	0.000
<b>75</b>	832.791	737.101	499.758	246.536	135.386	40.532	0.000	0.000	0.000
<b>80</b>	708.687	616.340	408.247	189.707	97.361	11.700	0.000	0.000	0.000
<b>85</b>	600.880	524.412	331.361	139.147	60.172	5.432	0.000	0.000	0.000
<b>90</b>	524.412	445.854	268.265	101.539	50.979	7.521	0.000	0.000	1.254
<b>95</b>	513.965	437.497	260.743	114.075	79.393	28.414	11.700	14.625	15.879
<b>100</b>	508.115	431.647	277.458	152.518	108.225	50.143	35.518	31.339	23.400
<b>105</b>	511.876	455.465	328.018	197.229	136.222	71.872	58.082	55.993	31.757
<b>110</b>	562.437	507.279	392.368	251.968	171.740	86.079	81.482	82.736	83.572
<b>115</b>	641.830	586.254	478.029	321.751	213.107	98.197	102.375	111.568	114.911
<b>120</b>	709.523	664.812	584.165	410.336	258.654	106.136	109.479	138.729	143.743
<b>125</b>	809.808	768.858	684.451	499.758	304.200	121.597	112.822	151.265	164.218
<b>130</b>	926.809	885.859	797.273	573.301	348.911	142.072	122.850	144.997	177.172
<b>135</b>	1035.869	989.905	888.784	638.905	391.533	156.697	134.132	125.775	181.768
<b>140</b>	1108.159	1062.195	946.030	680.690	423.290	161.711	142.072	122.850	178.425
<b>145</b>	1132.395	1083.923	925.137	690.719	446.272	182.186	148.340	127.029	158.786
<b>150</b>	1094.787	1050.077	928.480	681.944	462.986	204.750	148.340	138.311	115.329
<b>155</b>	1006.202	972.355	864.548	652.694	468.419	239.850	147.922	145.415	94.854
<b>160</b>	890.873	854.937	775.962	615.922	471.344	275.368	170.068	149.593	107.807
<b>165</b>	758.412	728.744	685.287	569.540	472.597	323.004	221.882	162.965	139.147
<b>170</b>	611.326	599.208	580.822	519.397	474.269	358.940	295.843	222.300	196.393
<b>175</b>	478.865	474.269	486.804	475.940	476.776	401.143	372.311	335.540	299.604
<b>180</b>	463.404	463.404	463.404	463.404	463.404	463.404	463.404	463.404	463.404

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	172.58	N.A.	3.80
0-30	400.17	N.A.	8.90
0-40	724.97	N.A.	16.10
0-60	1544.16	N.A.	34.30
0-80	2186.82	N.A.	48.60
0-90	2375.52	N.A.	52.80
10-90	2333.27	N.A.	51.80
20-40	552.39	N.A.	12.30
20-50	951.99	N.A.	21.10
40-70	1186.38	N.A.	26.40
60-80	642.66	N.A.	14.30
70-80	275.47	N.A.	6.10
80-90	188.70	N.A.	4.20
90-110	378.79	N.A.	8.40
90-120	662.88	N.A.	14.70
90-130	1013.32	N.A.	22.50
90-150	1722.39	N.A.	38.30
90-180	2126.3	N.A.	47.20
110-180	1747.51	N.A.	38.80
0-180	4501.82	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	42.25
10-20	130.32
20-30	227.59
30-40	324.80
40-50	399.60
50-60	419.59
60-70	367.18
70-80	275.47
80-90	188.70
90-100	167.46
100-110	211.33
110-120	284.09
120-130	350.44
130-140	377.34
140-150	331.73
150-160	233.66
160-170	128.90
170-180	41.34

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	96	91	86	82	89	84	80	76	71	68	65	59	57	55	49	47	45	40
2	87	78	71	65	80	72	66	61	61	56	52	51	47	44	41	39	36	32
3	78	68	59	53	72	62	55	49	53	47	42	44	40	36	36	32	30	25
4	71	59	50	44	65	55	47	41	46	40	35	38	34	30	31	28	25	21
5	65	52	43	37	59	48	40	34	41	35	30	34	29	25	28	24	21	17
6	60	46	38	31	55	43	35	29	36	30	25	30	25	22	25	21	18	15
7	55	42	33	27	50	39	31	25	33	27	22	27	22	19	22	18	15	13
8	51	38	29	24	47	35	27	22	30	24	19	25	20	16	20	16	14	11
9	47	34	26	21	43	32	24	20	27	21	17	23	18	15	19	15	12	10
10	44	31	24	18	40	29	22	17	25	19	15	21	16	13	17	13	11	9

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**UGR TABLE - CORRECTED**

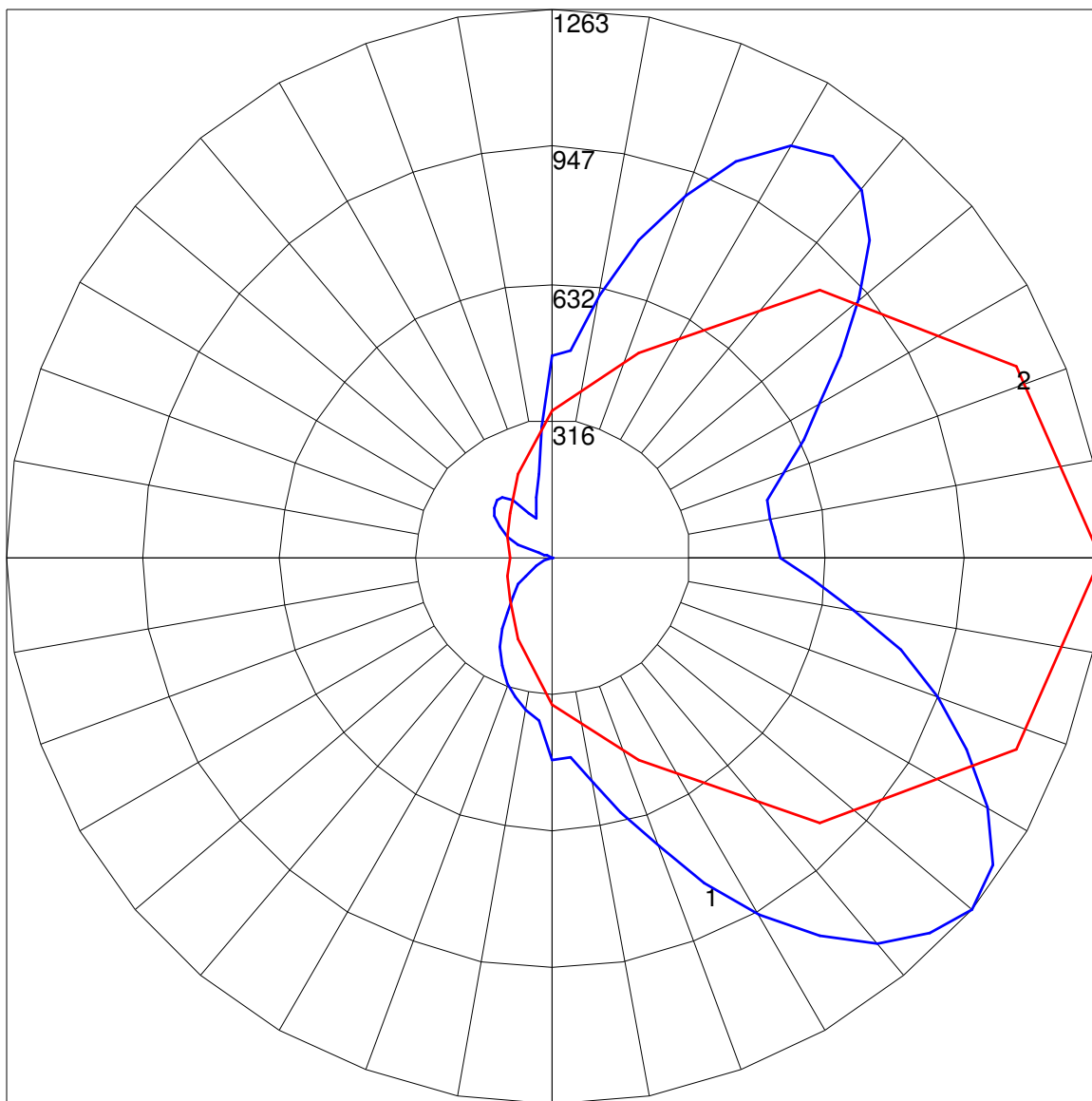
Reflectances

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	20.3	21.2	21.2	22.2	23.4	10.5	11.5	11.5	12.5	13.7
	3H	23.0	23.9	23.9	24.8	26.1	12.0	12.9	12.9	13.8	15.1
	4H	24.3	25.1	25.2	26.1	27.3	12.5	13.3	13.4	14.3	15.5
	6H	25.5	26.3	26.5	27.3	28.6	12.9	13.7	13.8	14.6	15.9
	8H	26.2	26.9	27.1	27.9	29.2	13.0	13.7	13.9	14.7	16.0
	12H	26.9	27.6	27.8	28.6	29.9	13.1	13.8	14.0	14.8	16.0
4H	2H	20.4	21.3	21.4	22.2	23.5	12.8	13.7	13.8	14.6	15.9
	3H	23.4	24.1	24.3	25.1	26.3	14.3	15.0	15.3	16.0	17.3
	4H	24.9	25.5	25.8	26.5	27.8	14.8	15.5	15.8	16.5	17.7
	6H	26.3	26.9	27.3	27.9	29.2	15.2	15.8	16.1	16.8	18.0
	8H	27.1	27.6	28.1	28.6	29.9	15.3	15.8	16.3	16.8	18.1
	12H	27.9	28.4	28.9	29.4	30.7	15.4	15.9	16.4	16.9	18.2
8H	4H	24.9	25.5	25.9	26.5	27.8	16.3	16.8	17.2	17.8	19.1
	6H	26.6	27.0	27.6	28.0	29.3	16.8	17.3	17.8	18.3	19.6
	8H	27.4	27.9	28.5	28.9	30.2	17.0	17.4	18.0	18.4	19.7
	12H	28.4	28.8	29.5	29.8	31.2	17.1	17.5	18.1	18.5	19.8
12H	4H	24.9	25.4	25.9	26.4	27.7	16.7	17.2	17.7	18.2	19.5
	6H	26.5	27.0	27.5	28.0	29.3	17.4	17.8	18.4	18.8	20.1
	8H	27.5	27.9	28.5	28.9	30.2	17.6	18.0	18.7	19.0	20.4

Maximum UGR = 31.2

POLAR GRAPH



Maximum Candela = 1263.184 Located At Horizontal Angle = 0, Vertical Angle = 50  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (50) (Through Max. Cd.)