



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L81-840-DCL-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20011.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 03-29-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-56 LED 22"ARRAYS 4'VAPORTITE LUMINAIRE
 [MORE] WHITE FLAT REFLECTOR w/DCL LENS
 [LUMCAT] 96-4-L81-840-DCL-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 4000K CCT
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_APPLICATION] INDOOR, COMMERCIAL, INDUSTRIAL
 [_SEARCH_MOUNTING] SURFACE, SUSPENDED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	8608
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	132
Total Luminaire Watts	65
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.30
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.44
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	13465	10523	9753
55	12182	8129	7983
65	10228	6803	6008
75	5718	4496	4356
85	1658	1147	1001

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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	2896.338	2896.338	2896.338	2896.338	2896.338
5	2886.211	2905.199	2855.830	2822.917	2834.310
10	2848.235	2807.726	2853.298	2910.263	2873.552
15	2792.536	2801.397	2858.362	2544.423	2568.475
20	2714.051	2700.126	2536.828	2746.964	2481.129
25	2622.908	2686.202	2658.352	2577.336	2629.237
30	2512.776	2767.218	2440.621	2587.463	2408.973
35	2368.465	2320.362	2465.938	2506.446	2467.204
40	2203.901	1908.950	2343.148	2281.119	2170.988
45	2001.359	1879.835	2100.098	2102.630	2101.364
50	1750.715	1555.769	1750.715	1857.049	1760.842
55	1506.400	1481.082	1484.880	1555.769	1605.138
60	1240.564	1320.315	1244.362	1381.077	1332.974
65	970.932	1020.301	1089.924	1119.040	1084.861
70	667.120	687.374	827.887	900.042	855.736
75	362.042	449.388	597.496	669.652	673.449
80	149.374	279.760	337.990	312.673	288.621
85	49.369	120.259	116.461	139.247	124.056
90	18.988	44.306	62.028	75.953	83.548
95	16.456	44.306	35.445	43.040	44.306
100	20.254	54.433	35.445	35.445	35.445
105	18.988	16.456	156.969	77.219	43.040
110	16.456	10.127	25.318	182.287	174.692
115	13.925	8.861	11.393	31.647	83.548
120	6.329	5.064	7.595	15.191	20.254
125	5.064	5.064	5.064	7.595	8.861
130	0.000	0.000	5.064	7.595	8.861
135	0.000	0.000	5.064	6.329	8.861
140	0.000	0.000	0.000	6.329	7.595
145	0.000	0.000	0.000	0.000	6.329
150	0.000	0.000	0.000	0.000	5.064
155	0.000	0.000	0.000	0.000	0.000
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	1046.65	N.A.	12.20
0-30	2258.87	N.A.	26.20
0-40	3762.71	N.A.	43.70
0-60	6663.39	N.A.	77.40
0-80	8290.64	N.A.	96.30
0-90	8447.81	N.A.	98.10
10-90	8174.39	N.A.	95.00
20-40	2716.06	N.A.	31.60
20-50	4256.68	N.A.	49.50
40-70	3947.99	N.A.	45.90
60-80	1627.25	N.A.	18.90
70-80	579.93	N.A.	6.70
80-90	157.17	N.A.	1.80
90-110	115.25	N.A.	1.30
90-120	150.07	N.A.	1.70
90-130	156.14	N.A.	1.80
90-150	159.77	N.A.	1.90
90-180	159.85	N.A.	1.90
110-180	44.60	N.A.	0.50
0-180	8607.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	273.42
10-20	773.23
20-30	1212.22
30-40	1503.84
40-50	1540.62
50-60	1360.06
60-70	1047.32
70-80	579.93
80-90	157.17
90-100	47.28
100-110	67.97
110-120	34.82
120-130	6.07
130-140	2.86
140-150	0.76
150-160	0.08
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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	108	103	99	95	105	101	97	94	96	93	90	92	90	87	88	86	84	82
2	98	90	83	78	96	88	82	76	84	79	74	81	76	72	77	74	71	68
3	90	79	71	64	87	77	70	64	74	68	62	71	66	61	68	64	60	57
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	55	51	49
5	75	62	53	47	73	61	53	46	59	51	46	57	50	45	55	49	44	42
6	70	56	47	41	67	55	47	40	53	46	40	51	45	39	49	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	45	39	34	32
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	41	35	31	29
9	56	42	34	29	54	42	34	29	41	33	28	39	33	28	38	32	28	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	18.9	20.5	19.3	20.8	21.2	20.3	21.9	20.7	22.2	22.6
	3H	20.1	21.5	20.5	21.9	22.3	22.1	23.6	22.5	23.9	24.3
	4H	20.3	21.7	20.7	22.1	22.5	22.9	24.2	23.3	24.6	25.1
	6H	20.4	21.7	20.9	22.1	22.5	23.3	24.5	23.7	24.9	25.4
	8H	20.4	21.6	20.9	22.0	22.5	23.3	24.6	23.8	25.0	25.4
	12H	20.4	21.5	20.9	22.0	22.4	23.4	24.5	23.9	25.0	25.4

UGR Viewed Endwise

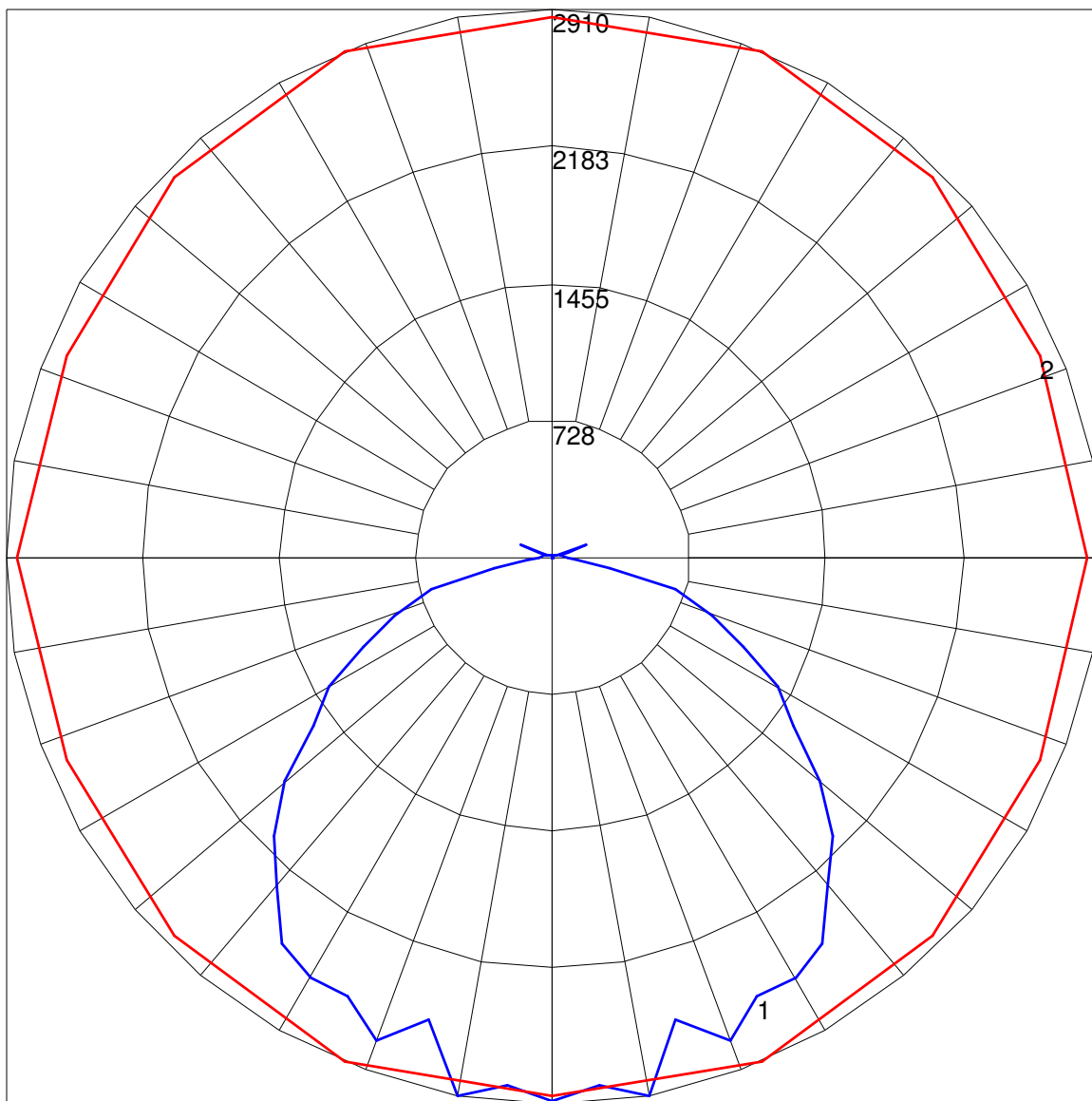
4H	2H	19.6	20.9	20.0	21.3	21.7	20.7	22.0	21.1	22.4	22.9
	3H	20.9	22.0	21.3	22.5	22.9	22.7	23.9	23.2	24.3	24.7
	4H	21.2	22.3	21.7	22.7	23.2	23.6	24.6	24.1	25.1	25.6
	6H	21.4	22.3	21.9	22.8	23.3	24.1	25.0	24.6	25.5	26.0
	8H	21.4	22.3	21.9	22.8	23.3	24.2	25.0	24.7	25.5	26.0
	12H	21.4	22.2	21.9	22.7	23.2	24.2	25.0	24.8	25.5	26.0

8H	4H	21.6	22.4	22.1	22.9	23.4	23.7	24.6	24.2	25.1	25.6
	6H	21.9	22.6	22.4	23.1	23.6	24.3	25.0	24.8	25.5	26.0
	8H	21.9	22.5	22.4	23.1	23.6	24.4	25.0	24.9	25.6	26.1
	12H	21.9	22.5	22.5	23.0	23.6	24.5	25.0	25.0	25.6	26.2

12H	4H	21.6	22.4	22.1	22.9	23.4	23.7	24.5	24.2	25.0	25.5
	6H	21.9	22.5	22.5	23.0	23.6	24.3	24.9	24.8	25.4	26.0
	8H	22.0	22.5	22.5	23.1	23.7	24.4	25.0	25.0	25.5	26.1

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 2910.263 Located At Horizontal Angle = 67.5, Vertical Angle = 10
1 - Vertical Plane Through Horizontal Angles (67.5 - 247.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (10) (Through Max. Cd.)