



IES INDOOR REPORT

PHOTOMETRIC FILENAME : 96-4-L81-835-DCL-(L64)-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] 03-26-2024
 [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-L81-835-DCL-(L64)-DIM-UNV
 [LAMPCAT] HLM 80 CRI, 3500K 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	6457
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	45.7
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	10101	7894	7316
55	9138	6098	5989
65	7673	5103	4507
75	4290	3373	3268
85	1244	860	751

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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	2172.766	2172.766	2172.766	2172.766	2172.766
5	2165.169	2179.413	2142.377	2117.687	2126.233
10	2136.679	2106.291	2140.478	2183.212	2155.672
15	2094.896	2101.543	2144.277	1908.767	1926.810
20	2036.018	2025.572	1903.069	2060.709	1861.285
25	1967.644	2015.126	1994.234	1933.458	1972.393
30	1885.026	2075.903	1830.897	1941.055	1807.156
35	1776.768	1740.682	1849.890	1880.278	1850.839
40	1653.315	1432.050	1757.775	1711.243	1628.625
45	1501.373	1410.208	1575.445	1577.344	1576.395
50	1313.346	1167.102	1313.346	1393.115	1320.943
55	1130.066	1111.073	1113.922	1167.102	1204.138
60	930.643	990.470	933.492	1036.052	999.966
65	728.370	765.406	817.636	839.478	813.837
70	500.458	515.652	621.062	675.191	641.953
75	271.596	337.121	448.228	502.357	505.206
80	112.057	209.869	253.553	234.560	216.517
85	37.036	90.215	87.366	104.460	93.064
90	14.245	33.237	46.532	56.978	62.676
95	12.345	33.237	26.590	32.288	33.237
100	15.194	40.834	26.590	26.590	26.590
105	14.245	12.345	117.755	57.928	32.288
110	12.345	7.597	18.993	136.747	131.050
115	10.446	6.647	8.547	23.741	62.676
120	4.748	3.799	5.698	11.396	15.194
125	3.799	3.799	3.799	5.698	6.647
130	0.000	0.000	3.799	5.698	6.647
135	0.000	0.000	3.799	4.748	6.647
140	0.000	0.000	0.000	4.748	5.698
145	0.000	0.000	0.000	0.000	4.748
150	0.000	0.000	0.000	0.000	3.799
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	785.17	N.A.	12.20
0-30	1694.55	N.A.	26.20
0-40	2822.7	N.A.	43.70
0-60	4998.72	N.A.	77.40
0-80	6219.45	N.A.	96.30
0-90	6337.35	N.A.	98.10
10-90	6132.24	N.A.	95.00
20-40	2037.52	N.A.	31.60
20-50	3193.26	N.A.	49.50
40-70	2961.69	N.A.	45.90
60-80	1220.73	N.A.	18.90
70-80	435.05	N.A.	6.70
80-90	117.91	N.A.	1.80
90-110	86.46	N.A.	1.30
90-120	112.58	N.A.	1.70
90-130	117.13	N.A.	1.80
90-150	119.86	N.A.	1.90
90-180	119.92	N.A.	1.90
110-180	33.46	N.A.	0.50
0-180	6457.27	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	205.11
10-20	580.06
20-30	909.38
30-40	1128.15
40-50	1155.74
50-60	1020.28
60-70	785.67
70-80	435.05
80-90	117.91
90-100	35.47
100-110	50.99
110-120	26.12
120-130	4.56
130-140	2.15
140-150	0.57
150-160	0.06
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	104	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

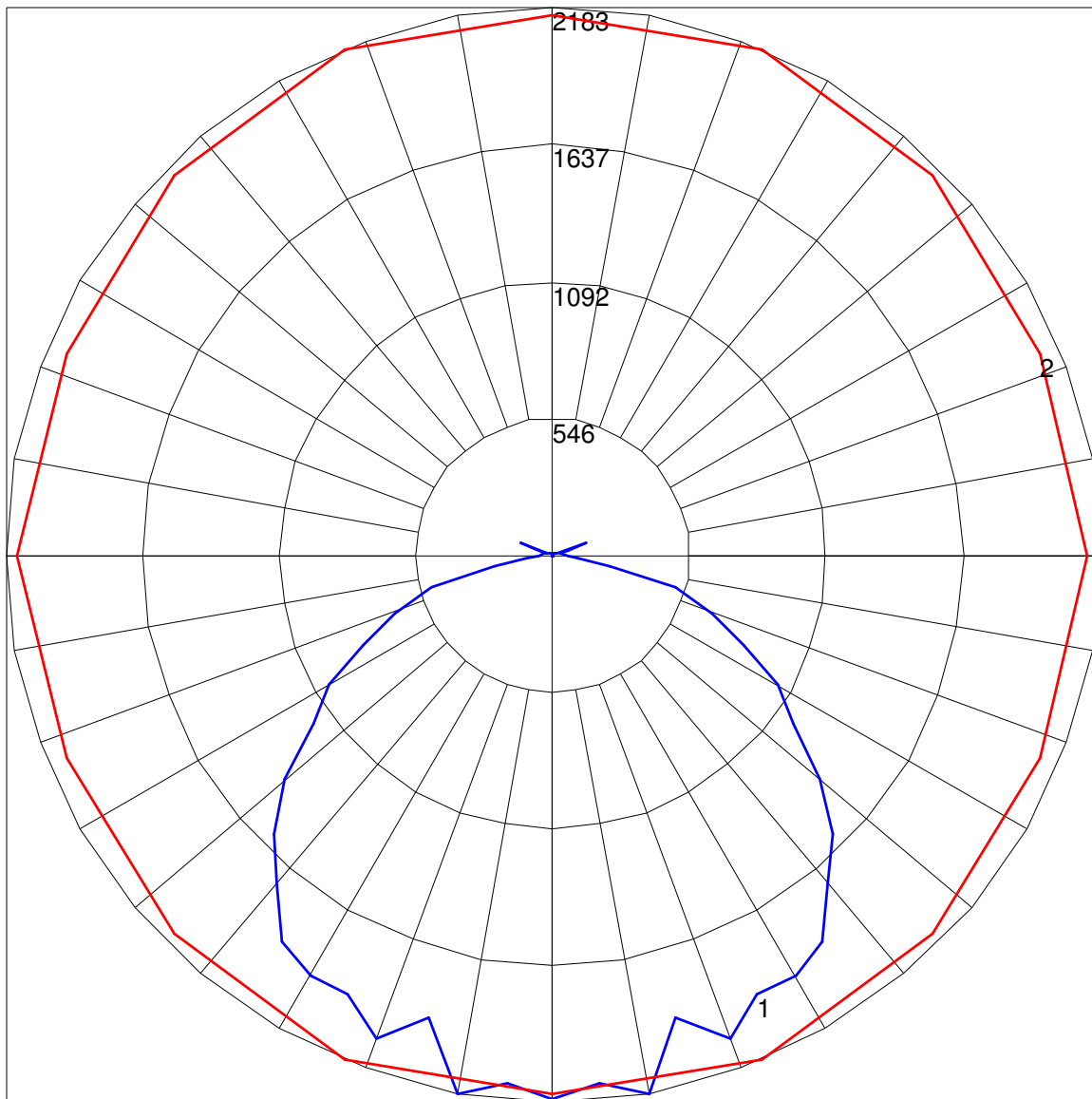
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	17.9	19.5	18.3	19.8	20.2	19.3	20.9	19.7	21.2	21.6
	3H	19.1	20.5	19.5	20.9	21.3	21.1	22.6	21.5	22.9	23.3
	4H	19.3	20.7	19.7	21.1	21.5	21.9	23.2	22.3	23.6	24.1
	6H	19.4	20.7	19.9	21.1	21.5	22.3	23.5	22.7	23.9	24.4
	8H	19.4	20.6	19.9	21.0	21.5	22.3	23.6	22.8	24.0	24.4
	12H	19.4	20.5	19.9	21.0	21.4	22.4	23.5	22.9	24.0	24.4
4H	2H	18.6	19.9	19.0	20.3	20.7	19.7	21.0	20.1	21.4	21.9
	3H	19.9	21.0	20.3	21.5	21.9	21.7	22.9	22.2	23.3	23.7
	4H	20.2	21.3	20.7	21.7	22.2	22.6	23.6	23.1	24.1	24.6
	6H	20.4	21.3	20.9	21.8	22.3	23.1	24.0	23.6	24.5	25.0
	8H	20.4	21.3	20.9	21.8	22.3	23.2	24.0	23.7	24.5	25.0
	12H	20.4	21.2	20.9	21.7	22.2	23.2	24.0	23.8	24.5	25.0
8H	4H	20.6	21.4	21.1	21.9	22.4	22.7	23.6	23.2	24.1	24.6
	6H	20.9	21.6	21.4	22.1	22.6	23.3	24.0	23.8	24.5	25.0
	8H	20.9	21.5	21.4	22.1	22.6	23.4	24.0	23.9	24.6	25.1
	12H	20.9	21.5	21.5	22.0	22.6	23.5	24.0	24.0	24.6	25.2
12H	4H	20.6	21.4	21.1	21.9	22.4	22.7	23.5	23.2	24.0	24.5
	6H	20.9	21.5	21.5	22.0	22.6	23.3	23.9	23.8	24.4	25.0
	8H	21.0	21.5	21.5	22.1	22.7	23.4	24.0	24.0	24.5	25.1

Maximum UGR = 25.2

POLAR GRAPH



Maximum Candela = 2183.212 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.)