



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MD4AEG-4-L22-L52-840-A_EXAM ONLY.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]GEN FROM BALLABS TEST NO. 20050.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUE DATE] 23-JUN-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-84 LED(EXAM) & 2-56 LED(AMBIENT) 4' MEDICAL ASYM TROFFER
 [MORE] WHITE REFL w/FROSTED ACRYLIC RIBBED LENS IN DOOR & CLEAR
 [MORE] ACRYLIC LENS
 [LUMCAT] MD4AEG-L22-L52-840-A-DIM-UNV EXAM ONLY

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5303
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	48.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.76
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.44 ft
Luminous Width (90-270)	3.77 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	20990	18522	11920
55	20107	17705	10080
65	13410	15061	7744
75	4533	7345	4347
85	0	207	207

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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>
0	2037.483	2037.483	2037.483	2037.483	2037.483	2037.483	2037.483	2037.483	2037.483
5	2184.403	2183.479	2152.062	2126.190	2066.128	1954.320	1875.778	1827.728	1938.612
10	2315.615	2310.995	2255.554	2174.239	2046.723	1858.221	1713.149	1639.227	1730.705
15	2420.031	2393.234	2325.780	2194.568	2007.914	1760.274	1556.988	1446.105	1543.128
20	2500.421	2464.384	2371.057	2192.720	1946.004	1631.834	1368.486	1251.135	1332.449
25	2538.306	2505.965	2375.677	2156.683	1856.373	1502.470	1216.022	1092.202	1138.403
30	2539.230	2506.889	2352.577	2100.317	1742.718	1373.106	1082.961	949.901	971.154
35	2499.497	2468.080	2288.819	1997.750	1606.886	1232.654	929.573	802.981	815.917
40	2417.259	2382.146	2174.239	1866.538	1458.117	1092.202	789.120	677.313	680.085
45	2279.578	2248.161	2011.610	1712.225	1294.564	942.509	668.997	573.822	560.885
50	2072.596	2064.280	1803.704	1517.255	1096.822	782.652	541.481	474.027	462.938
55	1771.363	1824.032	1559.760	1271.463	887.991	623.719	420.433	381.624	381.624
60	1350.930	1490.458	1295.488	1003.495	690.249	459.242	320.638	290.145	294.765
65	870.435	1033.988	977.622	769.716	502.672	299.385	222.691	191.274	189.426
70	474.027	588.606	621.871	530.392	328.030	187.578	128.440	101.643	105.339
75	180.186	245.792	291.993	269.816	172.793	105.339	55.442	44.353	54.518
80	38.809	54.518	72.998	75.770	58.214	33.265	20.329	17.557	21.253
85	0.000	2.772	2.772	1.848	2.772	2.772	1.848	0.924	2.772
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	745.27	N.A.	14.10
0-30	1583.83	N.A.	29.90
0-40	2598.84	N.A.	49.00
0-60	4538.48	N.A.	85.60
0-80	5289.85	N.A.	99.70
0-90	5303.33	N.A.	100.00
10-90	5110.4	N.A.	96.40
20-40	1853.57	N.A.	35.00
20-50	2898.44	N.A.	54.70
40-70	2502.02	N.A.	47.20
60-80	751.37	N.A.	14.20
70-80	188.98	N.A.	3.60
80-90	13.48	N.A.	0.30
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	5303.33	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	192.93
10-20	552.34
20-30	838.56
30-40	1015.01
40-50	1044.87
50-60	894.76
60-70	562.38
70-80	188.98
80-90	13.48
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
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	122	122	122	122	119	119	119	119	114	114	114	109	109	109	105	105	105	102
1	113	108	105	101	110	106	103	99	102	99	96	98	96	93	94	92	91	89
2	103	96	89	84	101	94	88	83	90	85	81	87	83	79	84	80	77	75
3	94	84	77	70	92	83	76	70	80	74	69	77	72	67	74	70	66	64
4	87	75	67	60	84	74	66	60	71	64	59	69	63	58	67	62	57	55
5	80	67	58	52	78	66	58	52	64	57	51	62	56	50	60	54	50	48
6	74	61	52	45	72	60	51	45	58	50	45	56	49	44	54	49	44	42
7	68	55	46	40	67	54	46	40	53	45	40	51	44	39	50	44	39	37
8	64	50	42	36	62	49	41	36	48	41	35	47	40	35	46	40	35	33
9	59	46	38	32	58	45	38	32	44	37	32	43	37	32	42	36	32	30
10	56	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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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

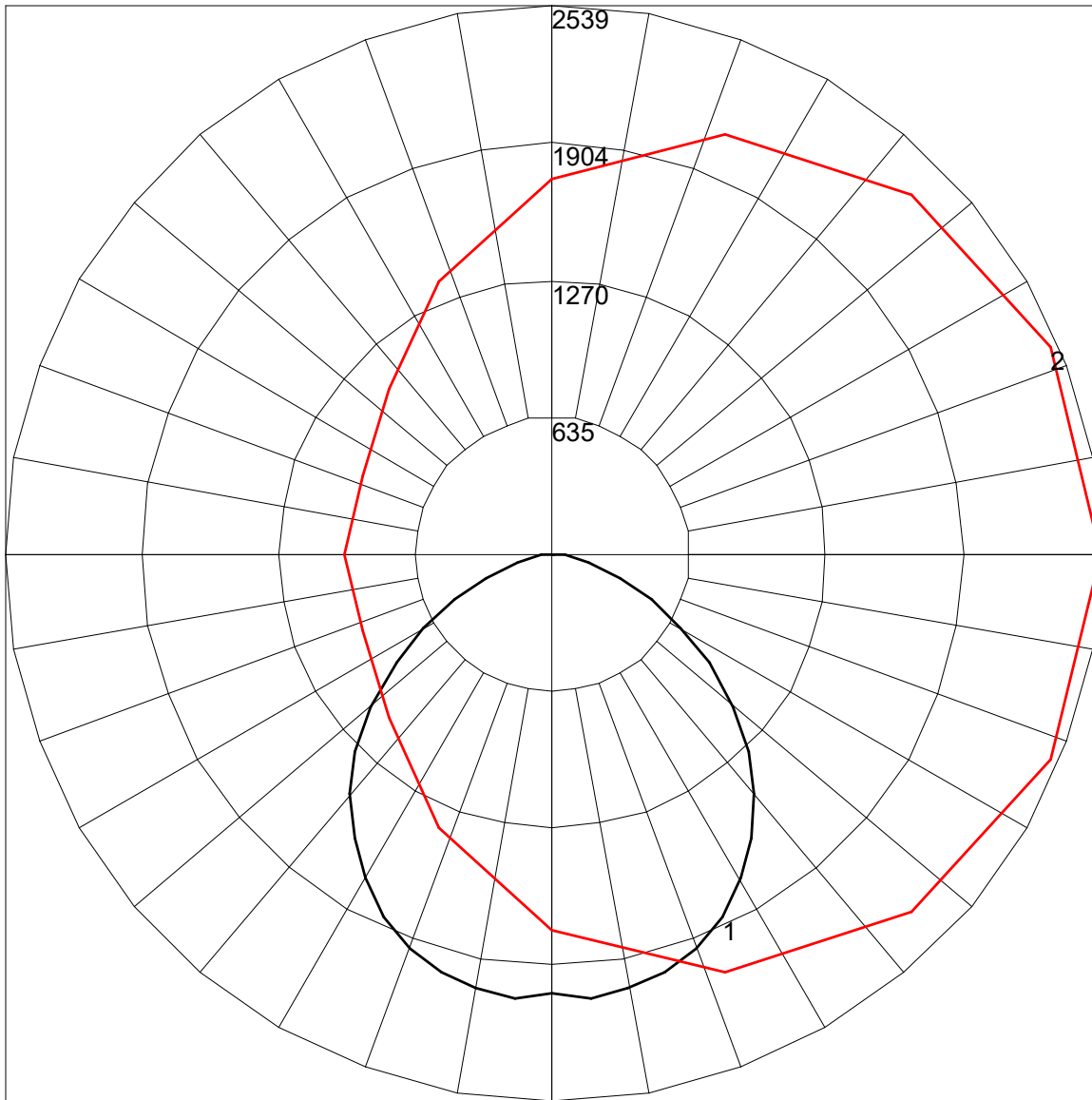
X=2H	Y=2H	24.7	26.3	25.1	26.6	26.9	20.3	21.8	20.6	22.2	22.5
	3H	25.5	26.9	25.9	27.3	27.6	21.4	22.8	21.8	23.1	23.5
	4H	25.6	26.9	26.0	27.3	27.7	21.6	22.9	22.0	23.3	23.7
	6H	25.6	26.8	26.0	27.2	27.6	21.7	22.9	22.1	23.3	23.7
	8H	25.6	26.7	26.0	27.1	27.5	21.7	22.8	22.1	23.2	23.6
	12H	25.5	26.6	25.9	27.0	27.4	21.6	22.7	22.1	23.1	23.6

UGR Viewed Endwise

4H	2H	25.1	26.4	25.5	26.8	27.1	21.1	22.4	21.5	22.7	23.1
	3H	26.1	27.2	26.5	27.6	28.0	22.3	23.4	22.8	23.8	24.2
	4H	26.2	27.2	26.6	27.6	28.0	22.6	23.6	23.1	24.0	24.5
	6H	26.2	27.0	26.6	27.5	27.9	22.7	23.6	23.2	24.0	24.5
	8H	26.2	26.9	26.6	27.4	27.9	22.7	23.5	23.2	23.9	24.4
	12H	26.1	26.8	26.6	27.3	27.8	22.7	23.4	23.2	23.9	24.3
8H	4H	26.2	27.0	26.7	27.5	27.9	22.8	23.5	23.2	24.0	24.5
	6H	26.2	26.9	26.7	27.4	27.8	22.9	23.5	23.4	24.0	24.5
	8H	26.2	26.8	26.7	27.3	27.8	22.8	23.4	23.4	23.9	24.4
	12H	26.2	26.7	26.7	27.2	27.7	22.8	23.3	23.3	23.8	24.4
12H	4H	26.2	26.9	26.7	27.4	27.9	22.7	23.4	23.2	23.9	24.4
	6H	26.2	26.8	26.7	27.2	27.8	22.8	23.4	23.4	23.9	24.4
	8H	26.2	26.7	26.7	27.2	27.7	22.8	23.3	23.3	23.8	24.4

Maximum UGR = 28.0

POLAR GRAPH



Maximum Candela = 2539.23 Located At Horizontal Angle = 0, Vertical Angle = 30
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (30) (Through Max. Cd.)