



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MD4AEG-4-L20-L50-8TW-A-DALI-UNV BOTN ON 4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20051.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIE, INC
 [ISSUE DATE] 28-JUL-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] LED EXAM & AMBIENT 4' MEDICAL ASYM TROFFER
 [MORE] WHITE REFL w/FROSTED ACRYLIC RIBBED LENS IN DOOR & CLEAR
 [MORE] ACRYLIC LENS
 [LUMCAT] MD4AEG-L20-L50-8TW-A-DALI-UNV BOTH ON 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7068
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	89
Total Luminaire Watts	79.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.50
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.30
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	23654	22459	16704
55	22039	20690	13683
65	14398	16991	10281
75	4932	8074	5870
85	0	329	594

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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	2988.840	2988.840	2988.840	2988.840	2988.840	2988.840	2988.840	2988.840	2988.840
5	3110.791	3120.539	3098.644	3088.218	3032.009	2909.786	2828.925	2778.822	2879.800
10	3202.755	3218.731	3179.311	3123.267	3003.823	2806.038	2650.422	2569.525	2649.400
15	3250.651	3252.629	3214.189	3118.682	2943.907	2686.363	2463.898	2341.668	2427.698
20	3244.714	3244.108	3204.097	3069.992	2841.664	2515.565	2233.348	2090.800	2156.585
25	3188.631	3186.226	3144.730	2979.061	2699.787	2332.375	2015.802	1849.395	1874.717
30	3091.215	3086.152	3043.072	2856.407	2531.530	2136.788	1791.021	1609.631	1609.466
35	2950.722	2955.393	2897.452	2677.438	2318.283	1912.065	1538.945	1347.765	1343.237
40	2785.764	2784.265	2693.781	2465.926	2077.684	1676.714	1293.854	1114.071	1101.652
45	2568.989	2573.660	2439.121	2229.798	1814.175	1430.809	1068.088	919.169	887.390
50	2298.733	2320.050	2138.763	1949.708	1512.854	1172.586	839.721	733.980	704.843
55	1941.539	2017.287	1822.746	1616.879	1205.419	921.439	629.016	559.359	549.618
60	1461.294	1621.380	1492.717	1269.168	925.351	671.221	459.766	398.015	394.437
65	934.580	1117.505	1102.888	945.988	667.342	436.021	307.327	246.468	237.627
70	508.167	636.567	684.129	640.561	435.799	259.780	163.715	121.416	121.388
75	196.078	269.955	320.958	320.245	233.328	128.472	65.986	53.674	62.451
80	46.633	64.222	82.675	86.195	81.018	36.935	22.866	21.117	23.745
85	0.000	3.521	4.406	5.299	7.948	3.521	2.642	1.764	3.521
90	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

IES INDOOR REPORT**PHOTOMETRIC FILENAME : MD4AEG-4-L20-L50-8TW-A-DALI-UNV BOTN ON 4000K_.IES****ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	1087.72	N.A.	15.40
0-30	2281.76	N.A.	32.30
0-40	3672.32	N.A.	52.00
0-60	6155.49	N.A.	87.10
0-80	7051.57	N.A.	99.80
0-90	7068.29	N.A.	100.00
10-90	6785.27	N.A.	96.00
20-40	2584.61	N.A.	36.60
20-50	3950.92	N.A.	55.90
40-70	3157.82	N.A.	44.70
60-80	896.08	N.A.	12.70
70-80	221.42	N.A.	3.10
80-90	16.72	N.A.	0.20
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	7068.29	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	283.01
10-20	804.70
20-30	1194.04
30-40	1390.57
40-50	1366.32
50-60	1116.85
60-70	674.66
70-80	221.42
80-90	16.72
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	70	66	64
4	86	74	66	60	83	73	66	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	45	56	50	45	55	49	45	43
7	68	55	47	41	66	54	46	41	53	46	40	51	45	40	50	44	40	38
8	63	50	42	37	62	50	42	37	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	44	37	33	43	37	33	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

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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	24.5	26.0	24.9	26.4	26.7	21.3	22.9	21.7	23.2	23.5
	3H	25.3	26.7	25.7	27.0	27.3	22.4	23.8	22.8	24.1	24.5
	4H	25.4	26.6	25.8	27.0	27.4	22.6	23.9	23.0	24.3	24.6
	6H	25.3	26.5	25.8	26.9	27.3	22.7	23.9	23.1	24.2	24.6
	8H	25.3	26.4	25.7	26.8	27.2	22.7	23.8	23.1	24.2	24.6
	12H	25.3	26.3	25.7	26.7	27.2	22.7	23.7	23.1	24.1	24.5

UGR Viewed Endwise

4H	2H	24.9	26.2	25.3	26.5	26.9	21.9	23.2	22.3	23.6	23.9
	3H	25.9	26.9	26.3	27.3	27.7	23.1	24.2	23.6	24.6	25.0
	4H	26.0	26.9	26.4	27.3	27.8	23.4	24.4	23.9	24.8	25.2
	6H	26.0	26.8	26.4	27.2	27.7	23.5	24.3	24.0	24.8	25.2
	8H	25.9	26.7	26.4	27.1	27.6	23.5	24.3	23.9	24.7	25.2
	12H	25.9	26.6	26.4	27.1	27.5	23.5	24.1	23.9	24.6	25.1

8H	4H	26.0	26.8	26.5	27.2	27.7	23.5	24.2	23.9	24.7	25.2
	6H	26.0	26.6	26.5	27.1	27.6	23.6	24.2	24.1	24.7	25.2
	8H	26.0	26.5	26.5	27.0	27.5	23.6	24.1	24.1	24.6	25.1
	12H	25.9	26.4	26.4	26.9	27.5	23.5	24.0	24.0	24.5	25.1

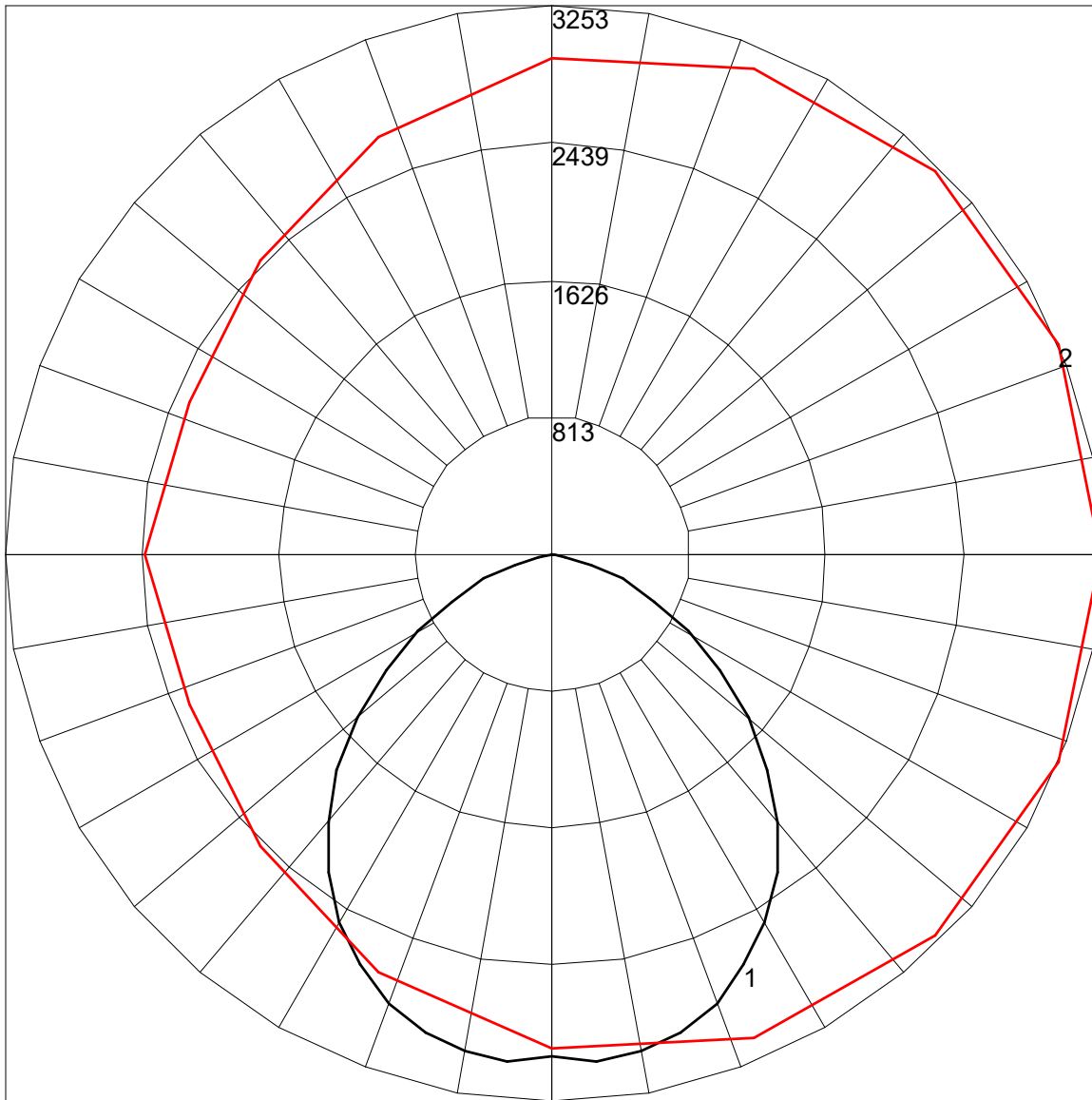
12H	4H	26.0	26.7	26.5	27.1	27.6	23.5	24.1	23.9	24.6	25.1
	6H	26.0	26.5	26.5	27.0	27.5	23.5	24.1	24.1	24.6	25.1
	8H	25.9	26.4	26.5	26.9	27.5	23.5	24.0	24.0	24.5	25.1

Maximum UGR = 27.8

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POLAR GRAPH



Maximum Candela = 3252.629 Located At Horizontal Angle = 22.5, Vertical Angle = 15

1 - Vertical Plane Through Horizontal Angles (90 - 270)

2 - Horizontal Cone Through Vertical Angle (15) (Through Max. Cd.)