



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MD2G-4-L30-840-A-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 16990.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 3-MAR-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.

[LUMINAIRE] 4' LINEAR RECESSED ASYMMETRIC LUMINAIRE

[MORE] WHITE REFL w/FROSTED ACRYLIC RIBBED ASYMMETRIC DIFFUSER

[LUMCAT] MD2G-4-L30-840-A-DIM-UNV

[_SEARCH_SOURCETYPE] LED

[_SEARCH_APPLICATION] INDOOR, HEALTHCARE, LINEAR, DIRECT

[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3014
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	106
Total Luminaire Watts	28.3
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.44
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.24
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.35 ft
Luminous Width (90-270)	3.84 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	10724	11923	8610
55	6906	9163	7040
65	4376	6474	5817
75	3037	4109	4437
85	1945	2741	3183

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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	1424.800	1424.800	1424.800	1424.800	1424.800	1424.800	1424.800	1424.800	1424.800
5	1495.944	1484.407	1459.410	1425.761	1391.151	1368.077	1332.505	1306.547	1295.972
10	1561.319	1544.014	1503.635	1442.105	1367.116	1303.663	1238.288	1193.102	1173.874
15	1537.284	1518.056	1469.986	1394.996	1295.010	1199.832	1105.614	1044.084	1018.126
20	1646.884	1619.003	1553.628	1442.105	1299.818	1150.800	1018.126	925.832	895.067
25	1538.246	1518.056	1453.642	1339.235	1184.449	1023.895	881.607	789.312	759.509
30	1487.291	1467.102	1401.726	1274.821	1093.116	908.526	757.586	664.330	632.603
35	1354.618	1358.463	1319.046	1188.295	999.860	806.618	659.523	572.035	543.193
40	1144.070	1170.028	1186.372	1058.505	867.186	675.867	538.386	458.589	434.554
45	946.021	989.284	1051.775	955.635	759.509	572.035	449.937	378.793	359.565
50	703.747	755.663	846.996	801.811	628.758	467.242	366.295	310.533	293.228
55	494.161	549.923	655.677	652.793	503.775	368.218	285.537	240.351	222.084
60	341.298	377.832	483.586	511.467	397.060	290.344	224.007	182.667	174.014
65	230.737	261.502	341.298	390.330	306.688	221.123	164.400	139.404	133.635
70	151.902	167.284	220.161	268.232	217.277	153.825	111.523	99.025	96.140
75	98.063	105.754	132.674	169.207	143.249	95.179	72.105	65.375	64.414
80	56.723	60.568	74.028	94.218	84.604	49.993	41.340	37.495	37.495
85	21.151	23.074	29.804	36.533	34.611	19.228	17.305	14.421	14.421
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	502.39	N.A.	16.70
0-30	1043.81	N.A.	34.60
0-40	1651.58	N.A.	54.80
0-60	2615.46	N.A.	86.80
0-80	2983.87	N.A.	99.00
0-90	3013.64	N.A.	100.00
10-90	2881.00	N.A.	95.60
20-40	1149.19	N.A.	38.10
20-50	1704.6	N.A.	56.60
40-70	1214.27	N.A.	40.30
60-80	368.42	N.A.	12.20
70-80	118.03	N.A.	3.90
80-90	29.77	N.A.	1.00
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	3013.64	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	132.64
10-20	369.74
20-30	541.42
30-40	607.77
40-50	555.40
50-60	408.48
60-70	250.39
70-80	118.03
80-90	29.77
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	114	114	114	114	112	112	112	112	107	107	107	102	102	102	98	98	98	96
1	106	102	98	95	103	100	97	94	96	93	91	92	90	88	89	87	85	83
2	97	90	85	80	95	89	83	79	85	81	77	82	79	75	79	76	74	72
3	90	81	73	68	87	79	73	67	76	71	66	74	69	65	71	67	64	62
4	83	72	65	59	81	71	64	58	69	62	57	66	61	57	64	60	56	54
5	77	65	57	51	75	64	57	51	62	56	51	60	55	50	59	54	49	48
6	71	59	51	45	69	58	51	45	57	50	45	55	49	44	54	48	44	42
7	66	54	46	41	65	53	46	40	52	45	40	50	44	40	49	44	40	38
8	62	50	42	37	60	49	42	36	48	41	36	46	40	36	45	40	36	34
9	58	46	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31
10	54	42	35	30	53	42	35	30	41	34	30	40	34	30	39	34	30	28

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UGR TABLE - CORRECTED

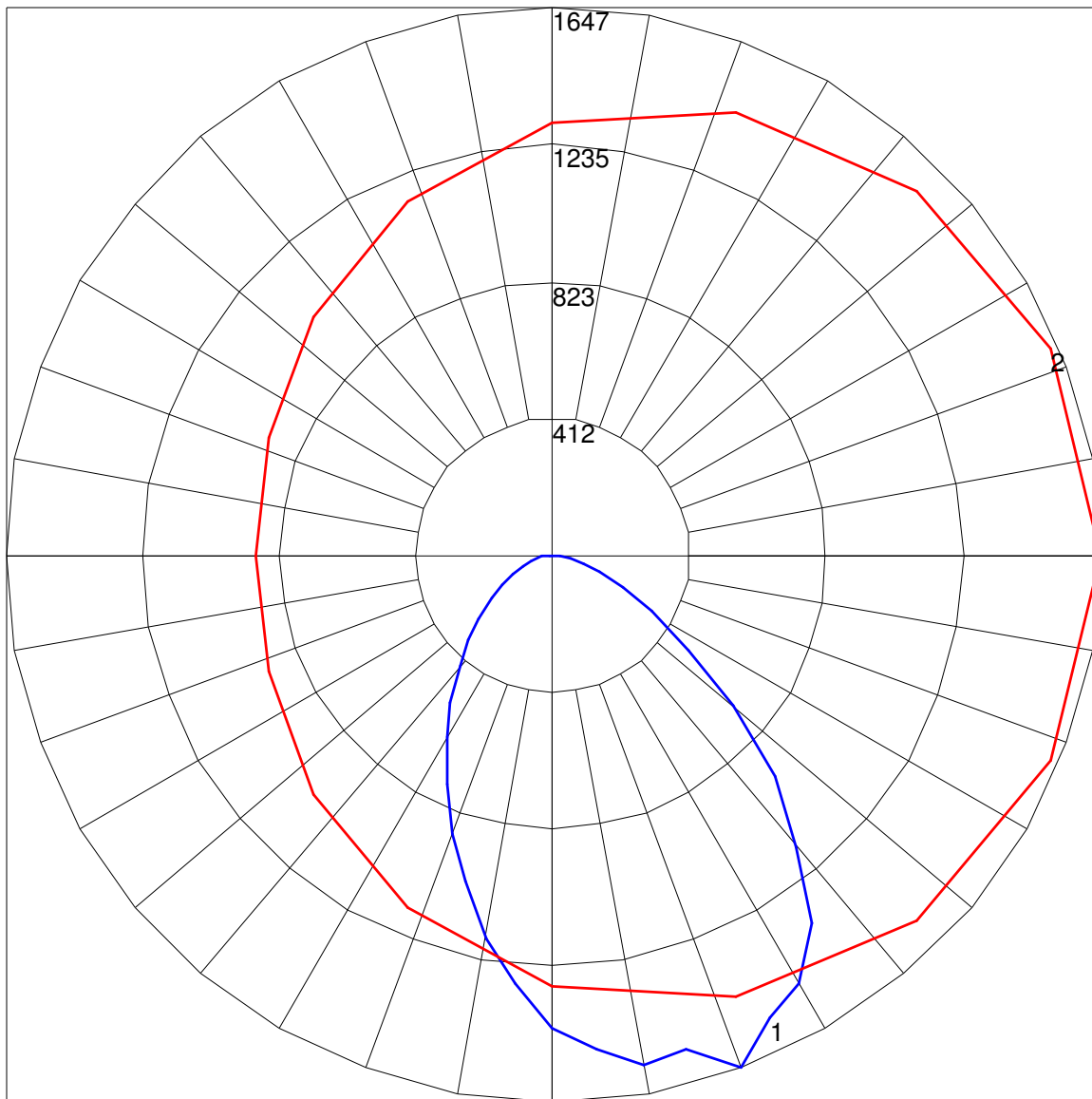
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	18.8	20.3	19.2	20.6	20.9	19.0	20.5	19.4	20.8	21.1
	3H	19.7	21.0	20.0	21.3	21.7	20.4	21.7	20.7	22.0	22.4
	4H	19.9	21.2	20.3	21.5	21.9	20.8	22.1	21.2	22.4	22.8
	6H	20.1	21.3	20.5	21.6	22.0	21.1	22.3	21.5	22.6	23.0
	8H	20.1	21.3	20.6	21.6	22.1	21.2	22.3	21.6	22.7	23.1
	12H	20.2	21.2	20.6	21.6	22.0	21.3	22.3	21.7	22.7	23.1
4H	2H	19.5	20.7	19.9	21.1	21.5	19.3	20.6	19.7	20.9	21.3
	3H	20.5	21.5	20.9	21.9	22.3	20.9	21.9	21.3	22.3	22.7
	4H	20.8	21.8	21.3	22.2	22.6	21.4	22.4	21.9	22.8	23.2
	6H	21.1	21.9	21.5	22.3	22.8	21.9	22.7	22.3	23.1	23.6
	8H	21.1	21.9	21.6	22.4	22.8	22.0	22.8	22.5	23.2	23.7
	12H	21.2	21.9	21.7	22.3	22.8	22.1	22.8	22.6	23.3	23.7
8H	4H	21.1	21.8	21.5	22.3	22.7	21.5	22.3	22.0	22.7	23.2
	6H	21.4	22.0	21.9	22.5	23.0	22.0	22.7	22.5	23.2	23.6
	8H	21.5	22.1	22.1	22.6	23.1	22.2	22.8	22.8	23.3	23.8
	12H	21.6	22.1	22.1	22.6	23.2	22.4	22.9	22.9	23.4	23.9
12H	4H	21.1	21.8	21.6	22.3	22.7	21.5	22.2	22.0	22.7	23.1
	6H	21.5	22.0	22.0	22.5	23.0	22.0	22.6	22.6	23.1	23.6
	8H	21.6	22.1	22.1	22.6	23.2	22.3	22.8	22.8	23.2	23.8

Maximum UGR = 23.9

POLAR GRAPH



Maximum Candela = 1646.884 Located At Horizontal Angle = 0, Vertical Angle = 20
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (20) (Through Max. Cd.)