IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4D-4-00-L8-835-F-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 29653.0
[TESTLABV] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 15-MAR-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2-72 LED 23.75" ARRAYS 4' DOWNLIGHT LUMINAIRE
[MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS
[LUMCAT] MX4D-4-00-L8-835-F-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3296
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	29.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	0.32 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9464	9177	9033
55	8691	8338	8102
65	7397	7277	7037
75	5615	5876	5550
85	2714	3490	3296

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1341.186	1341.186	1341.186	1341.186	1341.186
5	1347.182	1333.191	1327.195	1323.197	1323.197
10	1323.197	1309.206	1303.209	1299.212	1295.214
15	1277.225	1267.231	1257.237	1253.239	1247.243
20	1223.258	1209.266	1201.271	1189.278	1185.281
25	1153.300	1137.310	1129.315	1115.323	1113.324
30	1083.343	1065.353	1049.363	1045.366	1035.372
35	985.402	973.409	959.418	945.426	945.426
40	893.458	881.465	863.476	859.478	845.487
45	791.520	779.527	767.534	755.542	755.542
50	695.578	679.588	669.594	661.599	651.605
55	589.642	575.651	565.657	555.663	549.666
60	479.709	471.714	465.717	457.722	451.726
65	369.776	367.777	363.779	353.785	351.787
70	273.834	271.835	265.839	261.841	257.844
75	171.896	177.892	179.891	173.894	169.897
80	87.947	91.944	91.944	93.943	95.942
85	27.983	29.982	35.978	31.981	33.979
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	481.18	N.A.	14.60
0-30	1001.88	N.A.	30.40
0-40	1603.94	N.A.	48.70
0-60	2705.77	N.A.	82.10
0-80	3253.00	N.A.	98.70
0-90	3295.7	N.A.	100.00
10-90	3169.51	N.A.	96.20
20-40	1122.76	N.A.	34.10
20-50	1716.96	N.A.	52.10
40-70	1461.8	N.A.	44.40
60-80	547.22	N.A.	16.60
70-80	187.26	N.A.	5.70
80-90	42.70	N.A.	1.30
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	3295.7	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	126.19
10-20	354.99
20-30	520.70
30-40	602.06
40-50	594.20
50-60	507.64
60-70	359.96
70-80	187.26
80-90	42.70
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	83	83	83	83	82	82	82	82	78	78	78	75	75	75	72	72	72	70
1	77	74	71	68	75	72	69	67	69	67	65	66	65	63	64	62	61	60
2	70	65	60	56	68	63	59	55	61	57	54	58	56	53	56	54	52	50
3	64	57	51	47	62	56	51	47	54	49	46	52	48	45	50	47	44	43
4	59	51	45	40	57	50	44	40	48	43	39	46	42	39	45	41	38	37
5	54	45	39	35	53	45	39	35	43	38	34	42	37	34	41	37	34	32
6	50	41	35	31	49	40	35	30	39	34	30	38	33	30	37	33	30	28
7	47	37	31	27	45	37	31	27	36	31	27	35	30	27	34	30	26	25
8	43	34	28	24	42	34	28	24	33	28	24	32	27	24	31	27	24	22
9	41	31	26	22	40	31	26	22	30	25	22	29	25	22	29	25	22	20
10	38	29	24	20	37	29	23	20	28	23	20	27	23	20	27	23	20	18

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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	20.7	22.3	21.1	22.6	22.9	20.4	22.0	20.8	22.3	22.7
	3H	22.3	23.7	22.7	24.0	24.4	22.0	23.4	22.4	23.7	24.1
	4H	22.8	24.1	23.2	24.5	24.9	22.5	23.9	22.9	24.2	24.6
	6H	23.1	24.4	23.5	24.7	25.1	22.9	24.1	23.3	24.5	24.9
	8H	23.2	24.4	23.6	24.8	25.2	23.0	24.2	23.4	24.6	25.0
	12H	23.2	24.3	23.6	24.7	25.2	23.0	24.2	23.5	24.6	25.0
4H	2H	21.2	22.6	21.6	22.9	23.3	21.0	22.4	21.4	22.7	23.1
	3H	23.0	24.2	23.4	24.6	25.0	22.8	23.9	23.2	24.3	24.7
	4H	23.7	24.7	24.1	25.1	25.5	23.4	24.5	23.9	24.9	25.3
	6H	24.1	25.0	24.5	25.4	25.9	23.9	24.8	24.4	25.2	25.7
	8H	24.2	25.0	24.6	25.4	25.9	24.0	24.9	24.5	25.3	25.8
	12H	24.2	25.0	24.7	25.4	25.9	24.1	24.9	24.6	25.3	25.8
8H	4H	23.9	24.7	24.4	25.2	25.6	23.7	24.5	24.2	25.0	25.4
	6H	24.4	25.1	24.9	25.6	26.0	24.3	24.9	24.7	25.4	25.9
	8H	24.5	25.2	25.0	25.7	26.2	24.4	25.0	24.9	25.6	26.0
	12H	24.6	25.2	25.2	25.7	26.2	24.6	25.1	25.1	25.6	26.2
12H	4H	23.9	24.7	24.4	25.1	25.6	23.7	24.5	24.2	24.9	25.4
	6H	24.4	25.0	24.9	25.5	26.0	24.3	24.9	24.8	25.4	25.9
	8H	24.6	25.2	25.1	25.6	26.2	24.5	25.0	25.0	25.5	26.1

Maximum UGR = 26.2

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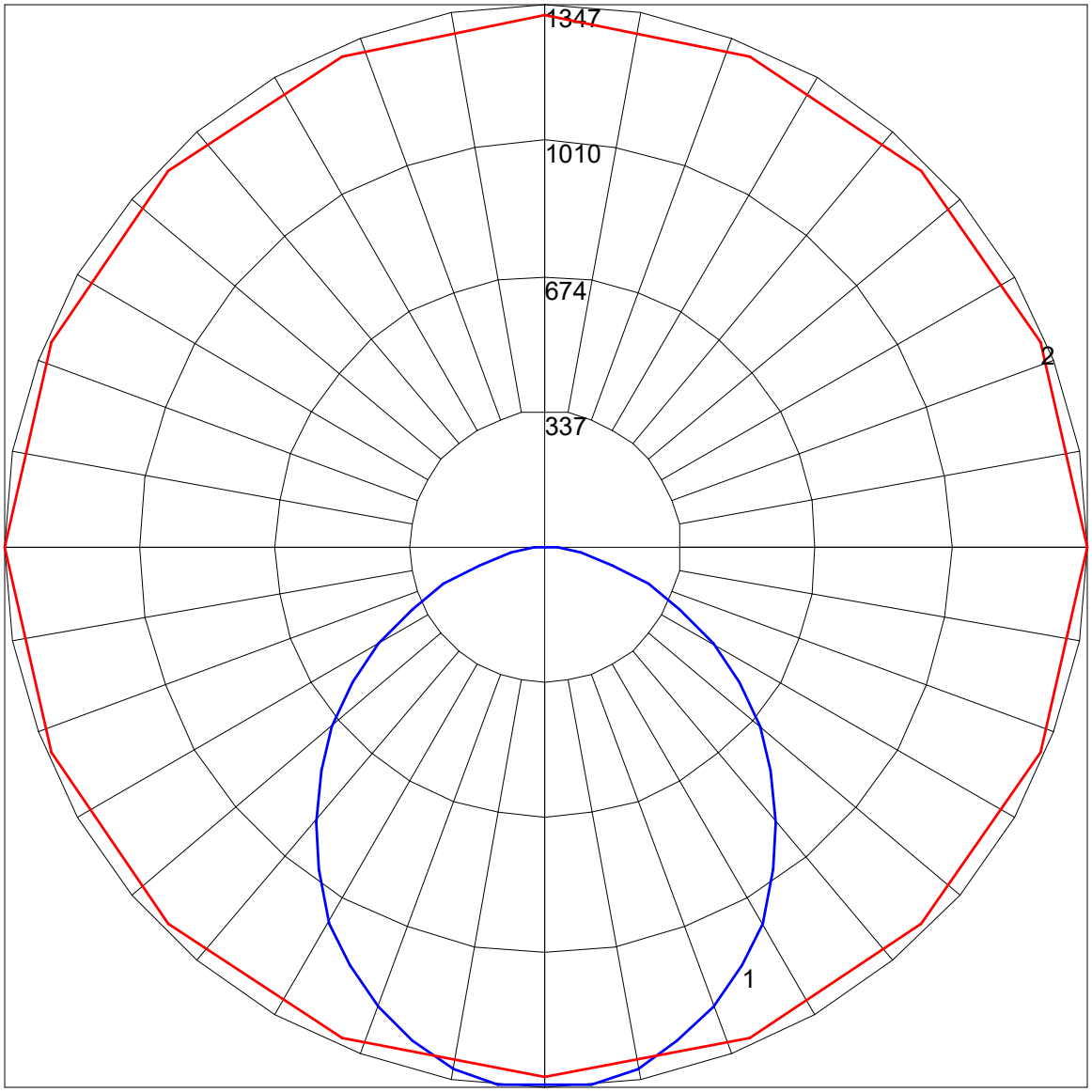
POLAR GRAPH



Maximum Candela = 1347.182 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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