IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4WD-4-00-L15-835-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-L15-835-F-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	5759
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	54
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	16538	16037	15786
55	15188	14570	14159
65	12927	12717	12298
75	9813	10269	9698
85	4744	6099	5760

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	2343.820	2343.820	2343.820	2343.820	2343.820
5	2354.300	2329.848	2319.369	2312.383	2312.383
10	2312.383	2287.932	2277.453	2270.467	2263.481
15	2232.044	2214.578	2197.113	2190.127	2179.648
20	2137.732	2113.281	2099.309	2078.350	2071.364
25	2015.476	1987.532	1973.560	1949.109	1945.615
30	1893.220	1861.783	1833.839	1826.853	1809.387
35	1722.062	1701.104	1676.652	1652.201	1652.201
40	1561.383	1540.424	1508.987	1502.001	1477.550
45	1383.238	1362.280	1341.322	1320.364	1320.364
50	1215.573	1187.629	1170.164	1156.192	1138.726
55	1030.443	1005.991	988.526	971.061	960.582
60	838.326	824.354	813.875	799.903	789.424
65	646.210	642.717	635.731	618.266	614.773
70	478.545	475.052	464.572	457.586	450.600
75	300.400	310.879	314.372	303.893	296.907
80	153.693	160.679	160.679	164.172	167.665
85	48.902	52.395	62.874	55.888	59.381
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	840.89	N.A.	14.60
0-30	1750.85	N.A.	30.40
0-40	2802.99	N.A.	48.70
0-60	4728.54	N.A.	82.10
0-80	5684.85	N.A.	98.70
0-90	5759.48	N.A.	100.00
10-90	5538.95	N.A.	96.20
20-40	1962.1	N.A.	34.10
20-50	3000.51	N.A.	52.10
40-70	2554.61	N.A.	44.40
60-80	956.31	N.A.	16.60
70-80	327.25	N.A.	5.70
80-90	74.62	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	5759.48	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	220.52
10-20	620.37
20-30	909.97
30-40	1052.14
40-50	1038.4
50-60	887.14
60-70	629.06
70-80	327.25
80-90	74.62
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	208	208	208	208	203	203	203	203	194	194	194	186	186	186	178	178	178	175
1	191	183	176	170	186	179	173	167	172	167	162	165	161	157	159	155	152	149
2	175	161	149	140	170	157	147	138	151	143	135	146	138	132	140	134	129	125
3	160	142	128	117	155	139	126	116	134	123	114	129	120	112	125	117	110	107
4	147	126	111	100	143	124	110	99	120	108	98	116	105	97	112	103	95	92
5	135	113	98	87	131	111	97	86	108	95	85	104	93	84	101	91	84	80
6	125	102	87	76	122	101	86	76	98	85	75	95	83	74	92	82	74	70
7	116	93	78	68	113	92	77	67	89	76	67	86	75	66	84	74	66	62
8	108	85	71	61	106	84	70	60	82	69	60	79	68	60	77	67	59	56
9	101	78	64	55	99	77	64	55	75	63	54	73	62	54	72	61	54	51
10	95	72	59	50	93	71	58	50	70	58	49	68	57	49	67	56	49	46

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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	19.4	21.0	19.8	21.3	21.6	19.1	20.7	19.5	21.0	21.4
	3H	21.0	22.4	21.4	22.7	23.1	20.7	22.1	21.1	22.4	22.8
	4H	21.5	22.8	21.9	23.2	23.6	21.2	22.6	21.6	22.9	23.3
	6H	21.8	23.1	22.2	23.4	23.8	21.6	22.8	22.0	23.2	23.6
	8H	21.9	23.1	22.3	23.5	23.9	21.7	22.9	22.1	23.3	23.7
	12H	21.9	23.0	22.3	23.4	23.9	21.7	22.9	22.2	23.3	23.7
4H	2H	19.9	21.3	20.3	21.6	22.0	19.7	21.1	20.1	21.4	21.8
	3H	21.7	22.9	22.1	23.3	23.7	21.5	22.6	21.9	23.0	23.4
	4H	22.4	23.4	22.8	23.8	24.2	22.1	23.2	22.6	23.6	24.0
	6H	22.8	23.7	23.2	24.1	24.6	22.6	23.5	23.1	23.9	24.4
	8H	22.9	23.7	23.3	24.1	24.6	22.7	23.6	23.2	24.0	24.5
	12H	22.9	23.7	23.4	24.1	24.6	22.8	23.6	23.3	24.0	24.5
8H	4H	22.6	23.4	23.1	23.9	24.3	22.4	23.2	22.9	23.7	24.1
	6H	23.1	23.8	23.6	24.3	24.7	23.0	23.6	23.4	24.1	24.6
	8H	23.2	23.9	23.7	24.4	24.9	23.1	23.7	23.6	24.3	24.7
	12H	23.3	23.9	23.9	24.4	24.9	23.3	23.8	23.8	24.3	24.9
12H	4H	22.6	23.4	23.1	23.8	24.3	22.4	23.2	22.9	23.6	24.1
	6H	23.1	23.7	23.6	24.2	24.7	23.0	23.6	23.5	24.1	24.6
	8H	23.3	23.9	23.8	24.3	24.9	23.2	23.7	23.7	24.2	24.8

Maximum UGR = 24.9

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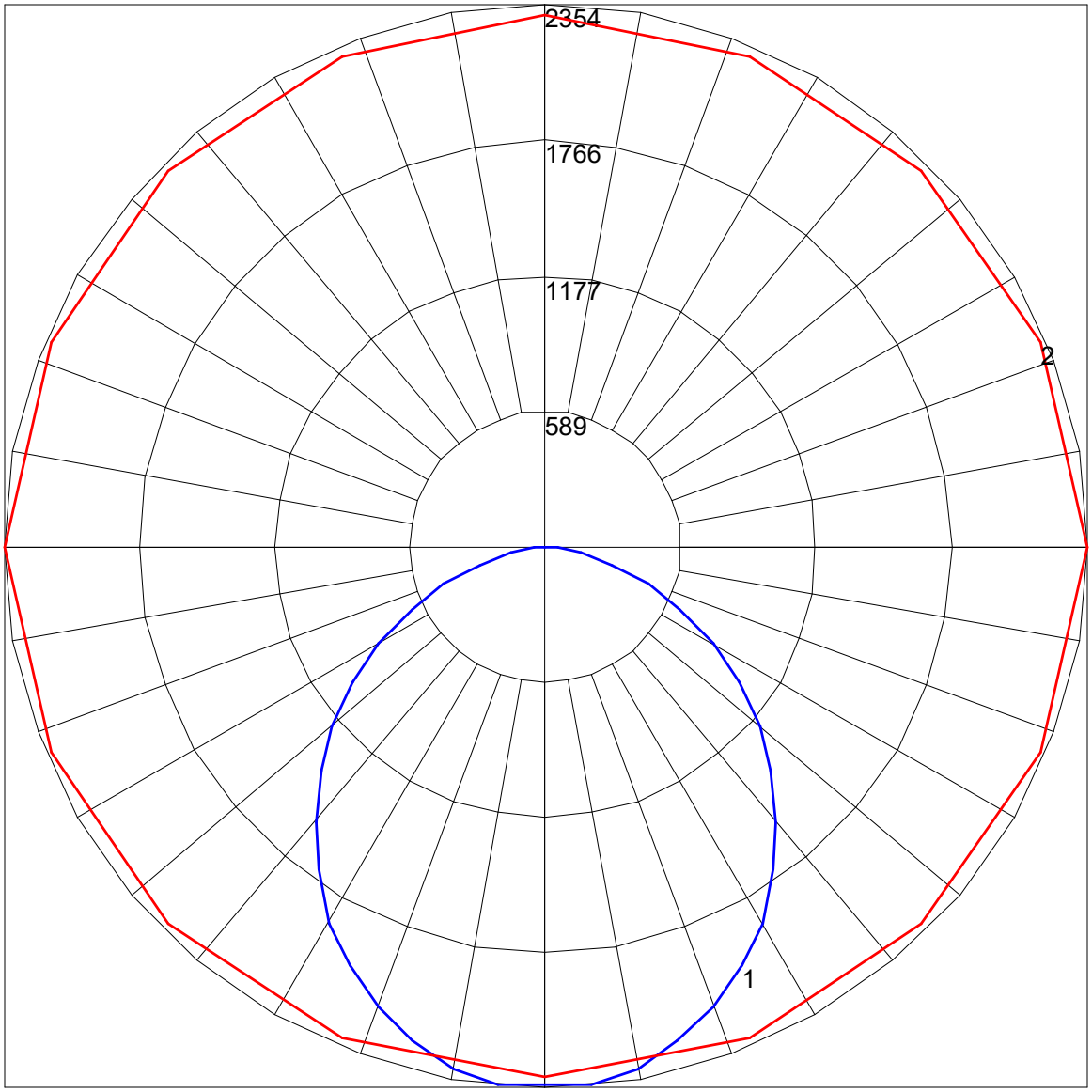
POLAR GRAPH



Maximum Candela = 2354.3 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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