IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4WD-4-00-L8-840-F-EM10W-DIM-UNV(EM MODE).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] 05-08-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO 64836
[LUMINAIRE] 4' DOWNLIGHT LUMINAIRE
[MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS
[LUMCAT] MX4W-4-00-L8-840-F-EM10W-DIM-UNV(EM MODE)

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1286
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	10
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	3692	3580	3525
55	3391	3253	3161
65	2886	2839	2746
75	2191	2293	2165
85	1059	1362	1286

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	523.290	523.290	523.290	523.290	523.290
5	525.630	520.171	517.831	516.272	516.272
10	516.272	510.813	508.473	506.913	505.354
15	498.335	494.435	490.536	488.976	486.637
20	477.278	471.819	468.700	464.021	462.461
25	449.983	443.744	440.625	435.166	434.386
30	422.688	415.669	409.430	407.870	403.971
35	384.474	379.795	374.336	368.877	368.877
40	348.600	343.921	336.902	335.343	329.884
45	308.827	304.148	299.469	294.790	294.790
50	271.394	265.155	261.255	258.136	254.237
55	230.061	224.602	220.702	216.803	214.463
60	187.168	184.049	181.709	178.589	176.250
65	144.275	143.495	141.936	138.036	137.257
70	106.842	106.062	103.722	102.163	100.603
75	67.069	69.408	70.188	67.848	66.289
80	34.314	35.874	35.874	36.654	37.434
85	10.918	11.698	14.038	12.478	13.258
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	187.74	N.A.	14.60
0-30	390.90	N.A.	30.40
0-40	625.81	N.A.	48.70
0-60	1055.71	N.A.	82.10
0-80	1269.22	N.A.	98.70
0-90	1285.88	N.A.	100.00
10-90	1236.65	N.A.	96.20
20-40	438.07	N.A.	34.10
20-50	669.90	N.A.	52.10
40-70	570.35	N.A.	44.40
60-80	213.51	N.A.	16.60
70-80	73.06	N.A.	5.70
80-90	16.66	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	1285.88	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	49.23
10-20	138.51
20-30	203.16
30-40	234.90
40-50	231.84
50-60	198.07
60-70	140.45
70-80	73.06
80-90	16.66
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	109	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	87	82	77	83	79	75	80	77	74	72
3	91	81	73	67	89	80	72	67	77	70	65	74	69	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	62	56	66	60	55	64	59	55	52
5	77	65	56	50	75	64	56	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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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	16.2	17.8	16.6	18.1	18.4	15.9	17.5	16.3	17.8	18.2
	3H	17.8	19.2	18.2	19.5	19.9	17.5	18.9	17.9	19.2	19.6
	4H	18.3	19.6	18.7	20.0	20.4	18.0	19.4	18.4	19.7	20.1
	6H	18.6	19.9	19.0	20.2	20.6	18.4	19.6	18.8	20.0	20.4
	8H	18.7	19.9	19.1	20.3	20.7	18.5	19.7	18.9	20.1	20.5
	12H	18.7	19.8	19.1	20.2	20.7	18.5	19.7	19.0	20.1	20.5
4H	2H	16.7	18.1	17.1	18.4	18.8	16.5	17.9	16.9	18.2	18.6
	3H	18.5	19.7	18.9	20.1	20.5	18.3	19.4	18.7	19.8	20.2
	4H	19.2	20.2	19.6	20.6	21.0	18.9	20.0	19.4	20.4	20.8
	6H	19.6	20.5	20.0	20.9	21.4	19.4	20.3	19.9	20.7	21.2
	8H	19.7	20.5	20.1	20.9	21.4	19.5	20.4	20.0	20.8	21.3
	12H	19.7	20.5	20.2	20.9	21.4	19.6	20.4	20.1	20.8	21.3
8H	4H	19.4	20.2	19.9	20.7	21.1	19.2	20.0	19.7	20.5	20.9
	6H	19.9	20.6	20.4	21.1	21.5	19.8	20.4	20.2	20.9	21.4
	8H	20.0	20.7	20.5	21.2	21.7	19.9	20.5	20.4	21.1	21.5
	12H	20.1	20.7	20.7	21.2	21.7	20.1	20.6	20.6	21.1	21.7
12H	4H	19.4	20.2	19.9	20.6	21.1	19.2	20.0	19.7	20.4	20.9
	6H	19.9	20.5	20.4	21.0	21.5	19.8	20.4	20.3	20.9	21.4
	8H	20.1	20.7	20.6	21.1	21.7	20.0	20.5	20.5	21.0	21.6

Maximum UGR = 21.7

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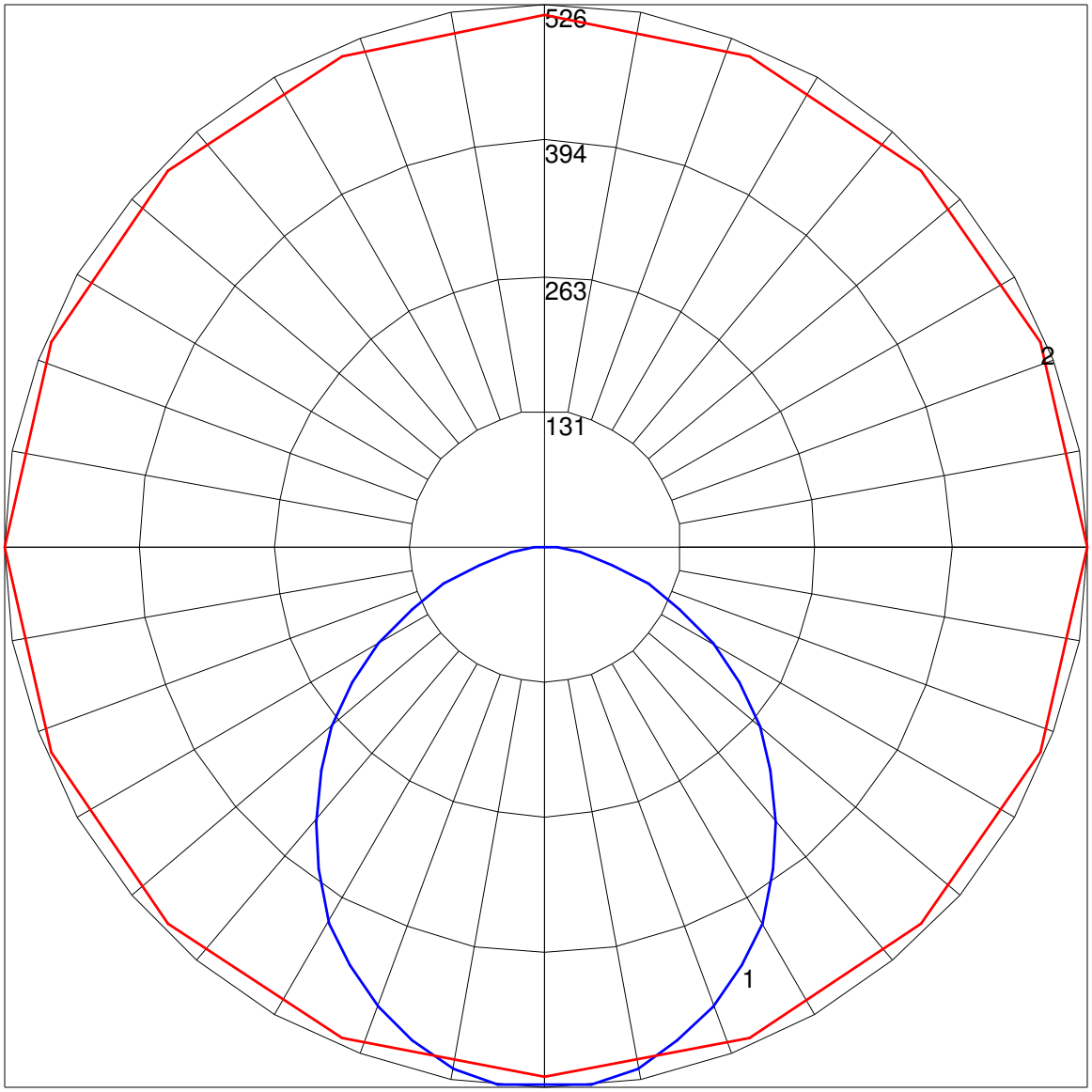
POLAR GRAPH



Maximum Candela = 525.63 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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