IES INDOOR REPORT
PHOTOMETRIC FILENAME : MX4WD-4-00-P7-8TW-F-POE-UNV 4000K_.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-P7-8TW-F-PoE-UNV 4000k

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	2812
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	20
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	8074	7829	7707
55	7415	7113	6912
65	6311	6209	6004
75	4790	5013	4735
85	2316	2977	2812

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1144.240	1144.240	1144.240	1144.240	1144.240
5	1149.356	1137.419	1132.303	1128.893	1128.893
10	1128.893	1116.956	1111.840	1108.429	1105.019
15	1089.671	1081.145	1072.619	1069.208	1064.092
20	1043.629	1031.692	1024.871	1014.639	1011.229
25	983.944	970.302	963.481	951.544	949.839
30	924.260	908.912	895.270	891.859	883.333
35	840.701	830.469	818.532	806.596	806.596
40	762.258	752.027	736.679	733.269	721.332
45	675.289	665.058	654.826	644.594	644.594
50	593.436	579.794	571.267	564.446	555.920
55	503.056	491.119	482.593	474.067	468.951
60	409.266	402.445	397.329	390.508	385.392
65	315.476	313.771	310.360	301.834	300.129
70	233.623	231.918	226.802	223.391	219.981
75	146.654	151.770	153.475	148.359	144.948
80	75.032	78.443	78.443	80.148	81.853
85	23.874	25.579	30.695	27.284	28.990
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	410.52	N.A.	14.60
0-30	854.76	N.A.	30.40
0-40	1368.41	N.A.	48.70
0-60	2308.45	N.A.	82.10
0-80	2775.31	N.A.	98.70
0-90	2811.74	N.A.	100.00
10-90	2704.09	N.A.	96.20
20-40	957.89	N.A.	34.10
20-50	1464.83	N.A.	52.10
40-70	1247.15	N.A.	44.40
60-80	466.87	N.A.	16.60
70-80	159.76	N.A.	5.70
80-90	36.43	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	2811.74	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	107.66
10-20	302.86
20-30	444.24
30-40	513.65
40-50	506.94
50-60	433.10
60-70	307.11
70-80	159.76
80-90	36.43
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	102	102	102	102	99	99	99	99	95	95	95	91	91	91	87	87	87	85
1	93	89	86	83	91	88	84	82	84	81	79	81	79	77	78	76	74	73
2	85	78	73	68	83	77	72	67	74	70	66	71	68	64	69	66	63	61
3	78	69	63	57	76	68	62	57	65	60	56	63	59	55	61	57	54	52
4	72	62	54	49	70	61	54	49	58	53	48	56	51	47	55	50	47	45
5	66	55	48	42	64	54	47	42	53	46	42	51	45	41	49	45	41	39
6	61	50	43	37	59	49	42	37	48	41	37	46	41	36	45	40	36	34
7	57	45	38	33	55	45	38	33	43	37	33	42	37	32	41	36	32	30
8	53	42	34	30	52	41	34	29	40	34	29	39	33	29	38	33	29	27
9	49	38	31	27	48	38	31	27	37	31	26	36	30	26	35	30	26	25
10	46	35	29	24	45	35	29	24	34	28	24	33	28	24	32	27	24	22

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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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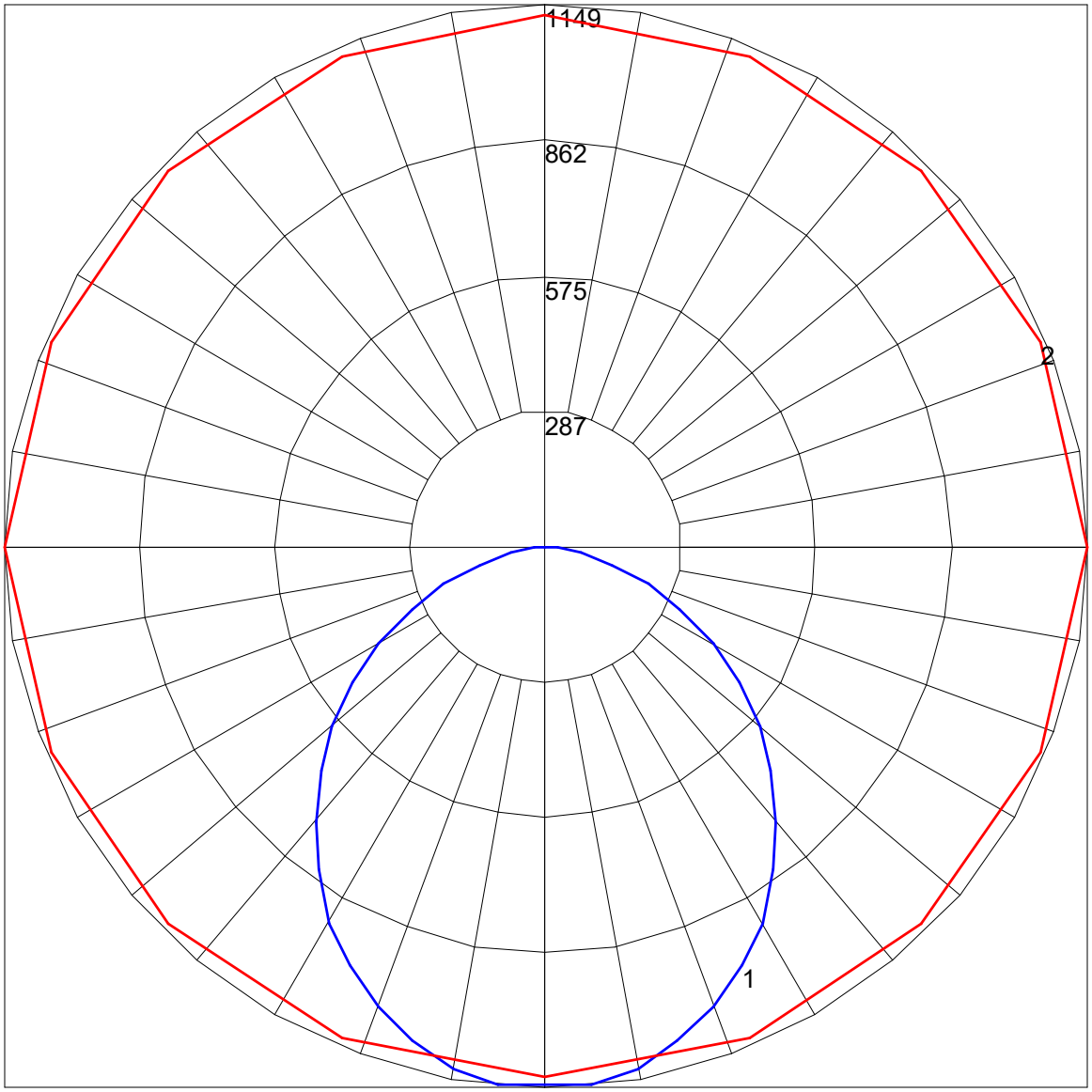
POLAR GRAPH



Maximum Candela = 1149.356 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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