



IES INDOOR REPORT

PHOTOMETRIC FILENAME : MX4D-8-00-L15-835-X-A-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] GEN FROM BALLABS TEST NO. 20649.0
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
 [ISSUEDATE] 12-MAR-2020
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 2-72 LED 23.75" ARRAYS 8' DOWNLIGHT LUMINAIRE
 [MORE] WHITE ALUM BODY w/WHITE REFL & FLAT FROST LENS
 [LUMCAT] MX4D-8-00-L15-835-x-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	11512
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	107
Total Luminaire Watts	108
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.06
Spacing Criterion (Diagonal)	1.20
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	8.00 ft
Luminous Width (90-270)	0.31 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	19317	16739	15184
55	15994	13370	12160
65	12052	10135	9176
75	8274	7268	6485
85	3985	3320	2656

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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>
0	5472.501	5472.501	5472.501	5472.501	5472.501
5	5492.328	5432.845	5406.408	5373.361	5366.752
10	5386.580	5300.659	5241.175	5181.691	5155.254
15	5221.347	5142.036	4976.803	4897.491	4857.836
20	5016.459	4857.836	4679.384	4553.808	4500.933
25	4738.868	4553.808	4322.482	4210.124	4177.078
30	4415.012	4190.296	3958.971	3846.613	3793.738
35	4025.064	3787.129	3555.803	3443.445	3377.352
40	3588.850	3383.962	3106.371	3000.622	2927.920
45	3119.590	2927.920	2703.204	2524.753	2452.050
50	2604.064	2419.004	2194.288	2055.492	2035.664
55	2095.148	1949.744	1751.465	1678.762	1592.841
60	1658.934	1480.483	1354.907	1268.986	1229.330
65	1163.237	1064.097	978.176	918.693	885.646
70	832.772	727.023	687.367	634.493	621.274
75	489.088	462.651	429.605	403.167	383.339
80	270.981	257.763	244.544	224.716	211.498
85	79.312	79.312	66.093	66.093	52.874
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1921.78	N.A.	16.70
0-30	3940.48	N.A.	34.20
0-40	6202.62	N.A.	53.90
0-60	9925.44	N.A.	86.20
0-80	11408.03	N.A.	99.10
0-90	11511.66	N.A.	100.00
10-90	11000.25	N.A.	95.60
20-40	4280.84	N.A.	37.20
20-50	6384.3	N.A.	55.50
40-70	4730.25	N.A.	41.10
60-80	1482.58	N.A.	12.90
70-80	475.15	N.A.	4.10
80-90	103.63	N.A.	0.90
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	11511.66	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	511.41
10-20	1410.36
20-30	2018.71
30-40	2262.14
40-50	2103.45
50-60	1619.37
60-70	1007.43
70-80	475.15
80-90	103.63
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	110	106	102	99	107	104	100	97	100	97	94	96	93	91	92	90	89	87
2	101	94	88	83	99	92	86	82	89	84	80	85	81	78	82	79	76	74
3	93	84	76	70	91	82	75	70	79	73	68	76	71	67	74	70	66	64
4	86	75	67	61	84	74	66	60	71	65	59	69	63	59	67	62	58	56
5	79	67	59	53	77	66	59	53	64	57	52	62	56	52	61	55	51	49
6	74	61	53	47	72	60	52	47	59	51	46	57	51	46	55	50	45	44
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	43	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	40	35	31	29

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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

X=2H	Y=2H	21.2	22.8	21.6	23.1	23.4	20.0	21.5	20.4	21.8	22.2
	3H	22.5	23.9	22.9	24.2	24.5	21.2	22.5	21.6	22.9	23.2
	4H	22.9	24.2	23.3	24.5	24.9	21.5	22.8	21.9	23.2	23.6
	6H	23.1	24.3	23.6	24.7	25.1	21.8	23.0	22.2	23.3	23.7
	8H	23.2	24.3	23.6	24.7	25.1	21.9	23.0	22.3	23.4	23.8
	12H	23.2	24.3	23.7	24.7	25.1	21.9	22.9	22.3	23.3	23.7

UGR Viewed Endwise

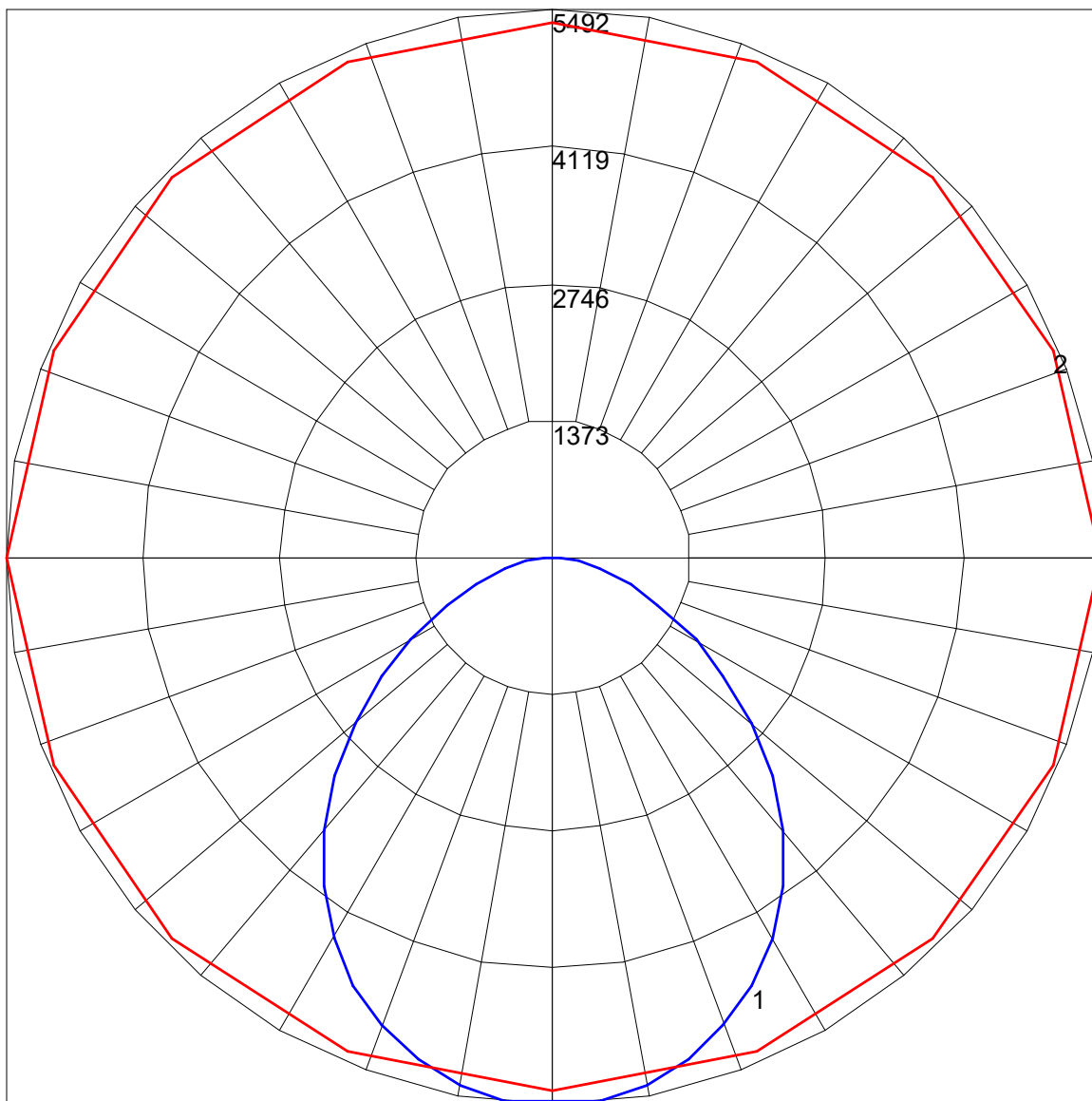
4H	2H	21.5	22.8	21.9	23.2	23.5	20.5	21.8	20.9	22.1	22.5
	3H	23.0	24.0	23.4	24.4	24.8	21.9	22.9	22.3	23.3	23.7
	4H	23.5	24.4	23.9	24.8	25.3	22.3	23.3	22.8	23.7	24.2
	6H	23.8	24.7	24.3	25.1	25.6	22.7	23.5	23.1	24.0	24.4
	8H	23.9	24.7	24.4	25.2	25.6	22.8	23.5	23.2	24.0	24.5
	12H	24.0	24.7	24.5	25.1	25.6	22.8	23.5	23.3	24.0	24.4

8H	4H	23.6	24.4	24.1	24.8	25.3	22.6	23.3	23.0	23.8	24.2
	6H	24.0	24.7	24.5	25.2	25.6	23.0	23.6	23.5	24.1	24.6
	8H	24.2	24.8	24.7	25.3	25.7	23.1	23.7	23.6	24.2	24.7
	12H	24.3	24.8	24.8	25.3	25.8	23.2	23.7	23.7	24.2	24.7

12H	4H	23.6	24.3	24.1	24.8	25.2	22.6	23.3	23.1	23.7	24.2
	6H	24.1	24.6	24.6	25.1	25.6	23.0	23.6	23.5	24.1	24.6
	8H	24.2	24.7	24.7	25.2	25.8	23.2	23.7	23.7	24.2	24.7

Maximum UGR = 25.8

POLAR GRAPH



Maximum Candela = 5492.328 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.)