H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L90-835-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20790.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2 X 4 RECESSED LED LUMINAIRE WITH
[MORE] FROST SQUARED RIBBED LENS
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L90-835-SA-DIM-UNV
[LAMPCAT] 22 INCH LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9332
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	140
Total Luminaire Watts	66.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	8338	8080	8020
55	7504	7548	7714
65	6556	7255	7947
75	5293	7325	9140
85	2453	7908	9554

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3634.217	3634.217	3634.217	3634.217	3634.217
5	3652.272	3612.149	3592.087	3541.932	3588.074
10	3582.056	3538.923	3512.842	3507.827	3514.848
15	3463.690	3421.560	3398.489	3390.464	3384.446
20	3306.204	3265.077	3226.960	3207.901	3210.910
25	3109.598	3075.492	3059.443	3009.288	2990.229
30	2879.889	2844.780	2808.669	2781.585	2766.539
35	2641.152	2609.053	2565.920	2528.805	2507.740
40	2367.307	2341.226	2296.087	2266.997	2249.944
45	2102.489	2072.396	2037.288	2021.238	2022.242
50	1822.625	1813.598	1775.480	1782.502	1791.529
55	1534.737	1534.737	1543.765	1567.839	1577.870
60	1266.910	1272.929	1314.056	1355.183	1380.260
65	988.050	1024.161	1093.375	1164.594	1197.697
70	720.223	780.409	879.715	975.009	1014.130
75	488.508	550.700	676.087	799.467	843.604
80	255.789	362.118	492.520	622.923	664.050
85	76.235	171.529	245.759	278.861	296.916
90	0.000	3.009	4.012	7.022	4.012

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1300.37	N.A.	13.90
0-30	2701.86	N.A.	29.00
0-40	4307.7	N.A.	46.20
0-60	7280.06	N.A.	78.00
0-80	9079.12	N.A.	97.30
0-90	9332.22	N.A.	100.00
10-90	8991.19	N.A.	96.30
20-40	3007.33	N.A.	32.20
20-50	4589.59	N.A.	49.20
40-70	4056.93	N.A.	43.50
60-80	1799.06	N.A.	19.30
70-80	714.49	N.A.	7.70
80-90	253.10	N.A.	2.70
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	9332.22	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	341.04
10-20	959.33
20-30	1401.49
30-40	1605.84
40-50	1582.26
50-60	1390.11
60-70	1084.57
70-80	714.49
80-90	253.10
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	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	83	70	62	55	80	69	61	55	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25

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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	18.8	20.4	19.2	20.8	21.1	19.1	20.7	19.5	21.1	21.4
	3H	20.5	21.9	20.8	22.3	22.6	21.4	22.9	21.8	23.2	23.5
	4H	21.1	22.4	21.5	22.8	23.2	22.5	23.9	22.9	24.2	24.6
	6H	21.4	22.7	21.9	23.1	23.5	23.5	24.8	23.9	25.2	25.6
	8H	21.5	22.8	22.0	23.2	23.6	23.9	25.2	24.3	25.6	26.0
	12H	21.6	22.8	22.0	23.2	23.6	24.2	25.4	24.6	25.8	26.2
4H	2H	19.5	20.9	19.9	21.3	21.6	19.8	21.1	20.2	21.5	21.9
	3H	21.4	22.6	21.8	23.0	23.4	22.3	23.4	22.7	23.8	24.2
	4H	22.2	23.2	22.6	23.6	24.1	23.5	24.6	24.0	25.0	25.4
	6H	22.7	23.6	23.2	24.1	24.5	24.8	25.7	25.2	26.2	26.6
	8H	22.9	23.7	23.3	24.2	24.6	25.3	26.1	25.7	26.6	27.1
	12H	22.9	23.7	23.4	24.2	24.7	25.6	26.4	26.1	26.9	27.3
8H	4H	22.7	23.6	23.1	24.0	24.5	23.9	24.7	24.3	25.2	25.6
	6H	23.4	24.1	23.9	24.6	25.1	25.3	26.1	25.8	26.5	27.0
	8H	23.7	24.3	24.2	24.8	25.3	25.9	26.6	26.4	27.1	27.6
	12H	23.8	24.4	24.3	24.9	25.5	26.4	27.0	26.9	27.5	28.0
12H	4H	22.8	23.6	23.3	24.1	24.5	23.9	24.7	24.4	25.2	25.6
	6H	23.6	24.3	24.1	24.7	25.3	25.4	26.1	25.9	26.5	27.1
	8H	23.9	24.5	24.5	25.0	25.6	26.1	26.6	26.6	27.1	27.7

Maximum UGR = 28.0

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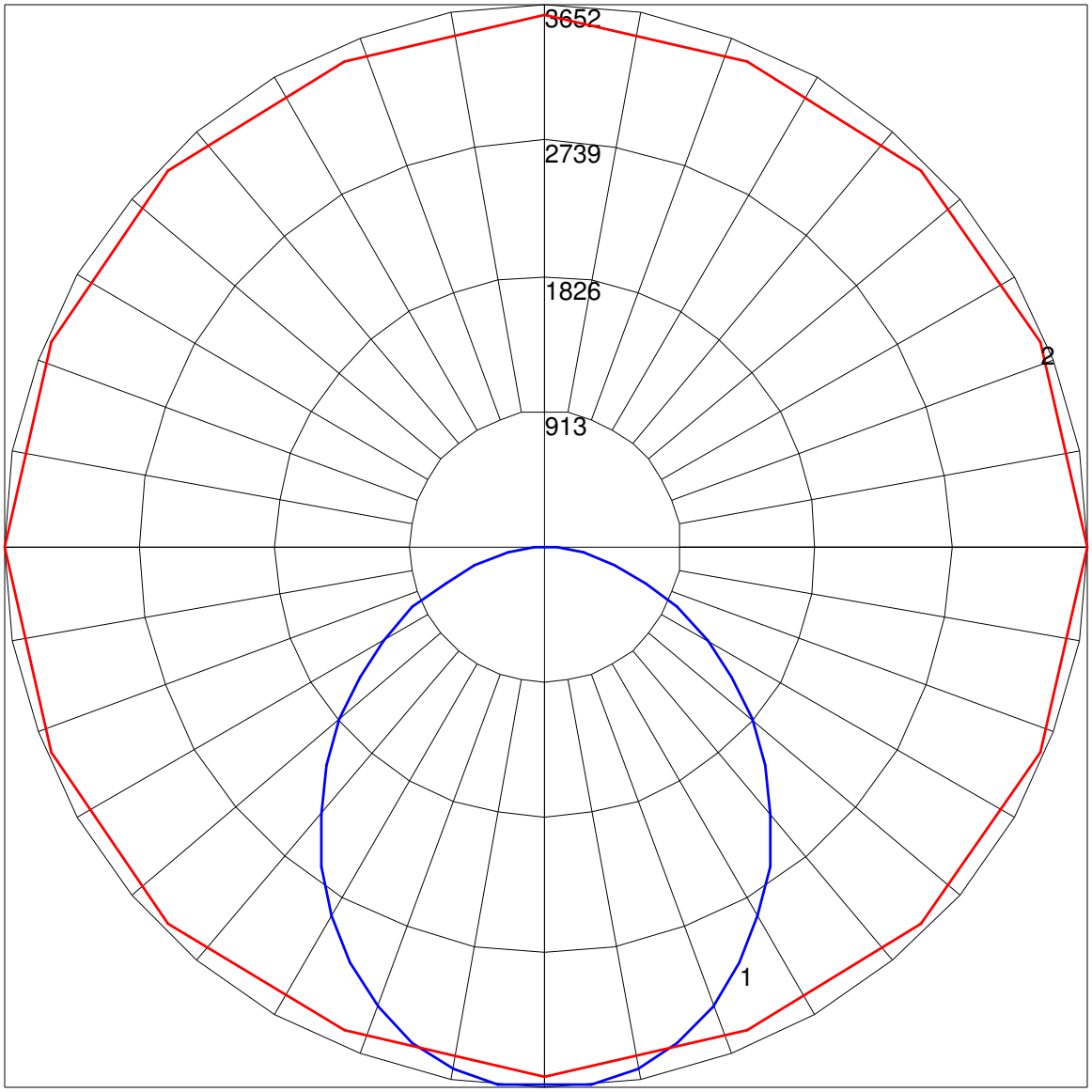
POLAR GRAPH



Maximum Candela = 3652.272 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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