H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-850-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-L110-850-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	12104
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	145
Total Luminaire Watts	83.7
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	10815	10480	10402
55	9732	9790	10006
65	8504	9410	10308
75	6865	9501	11856
85	3182	10256	12391

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	4713.715	4713.715	4713.715	4713.715	4713.715
5	4737.134	4685.092	4659.071	4594.018	4653.867
10	4646.060	4590.115	4556.288	4549.783	4558.890
15	4492.536	4437.892	4407.968	4397.559	4389.753
20	4288.271	4234.928	4185.488	4160.768	4164.671
25	4033.264	3989.029	3968.212	3903.159	3878.439
30	3735.323	3689.786	3642.949	3607.820	3588.304
35	3425.673	3384.039	3328.094	3279.955	3252.633
40	3070.485	3036.658	2978.110	2940.380	2918.262
45	2727.007	2687.976	2642.439	2621.622	2622.923
50	2364.013	2352.304	2302.864	2311.971	2323.681
55	1990.611	1990.611	2002.321	2033.546	2046.556
60	1643.230	1651.036	1704.379	1757.723	1790.249
65	1281.537	1328.375	1418.148	1510.523	1553.457
70	934.156	1012.219	1141.024	1264.624	1315.365
75	633.613	714.278	876.910	1036.939	1094.186
80	331.769	469.680	638.817	807.954	861.297
85	98.880	222.480	318.758	361.693	385.112
90	0.000	3.903	5.204	9.107	5.204

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1686.62	N.A.	13.90
0-30	3504.41	N.A.	29.00
0-40	5587.24	N.A.	46.20
0-60	9442.51	N.A.	78.00
0-80	11775.96	N.A.	97.30
0-90	12104.24	N.A.	100.00
10-90	11661.91	N.A.	96.30
20-40	3900.62	N.A.	32.20
20-50	5952.87	N.A.	49.20
40-70	5261.99	N.A.	43.50
60-80	2333.45	N.A.	19.30
70-80	926.73	N.A.	7.70
80-90	328.28	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	12104.24	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	442.34
10-20	1244.29
20-30	1817.79
30-40	2082.83
40-50	2052.25
50-60	1803.02
60-70	1406.73
70-80	926.73
80-90	328.28
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	19.7	21.3	20.1	21.7	22.0	20.0	21.6	20.4	22.0	22.3
	3H	21.4	22.8	21.7	23.2	23.5	22.3	23.8	22.7	24.1	24.4
	4H	22.0	23.3	22.4	23.7	24.1	23.4	24.8	23.8	25.1	25.5
	6H	22.3	23.6	22.8	24.0	24.4	24.4	25.7	24.8	26.1	26.5
	8H	22.4	23.7	22.9	24.1	24.5	24.8	26.1	25.2	26.5	26.9
	12H	22.5	23.7	22.9	24.1	24.5	25.1	26.3	25.5	26.7	27.1
4H	2H	20.4	21.8	20.8	22.2	22.5	20.7	22.0	21.1	22.4	22.8
	3H	22.3	23.5	22.7	23.9	24.3	23.2	24.3	23.6	24.7	25.1
	4H	23.1	24.1	23.5	24.5	25.0	24.4	25.5	24.9	25.9	26.3
	6H	23.6	24.5	24.1	25.0	25.4	25.7	26.6	26.1	27.1	27.5
	8H	23.8	24.6	24.2	25.1	25.5	26.2	27.0	26.6	27.5	28.0
	12H	23.8	24.6	24.3	25.1	25.6	26.5	27.3	27.0	27.8	28.3
8H	4H	23.6	24.5	24.0	24.9	25.4	24.8	25.6	25.2	26.1	26.5
	6H	24.3	25.0	24.8	25.5	26.0	26.2	27.0	26.7	27.4	27.9
	8H	24.6	25.2	25.1	25.7	26.2	26.8	27.5	27.3	28.0	28.5
	12H	24.7	25.3	25.2	25.8	26.4	27.3	27.9	27.8	28.4	28.9
12H	4H	23.7	24.5	24.2	25.0	25.4	24.8	25.6	25.3	26.1	26.5
	6H	24.5	25.2	25.0	25.6	26.2	26.3	27.0	26.8	27.4	28.0
	8H	24.8	25.4	25.4	25.9	26.5	27.0	27.5	27.5	28.0	28.6

Maximum UGR = 28.9

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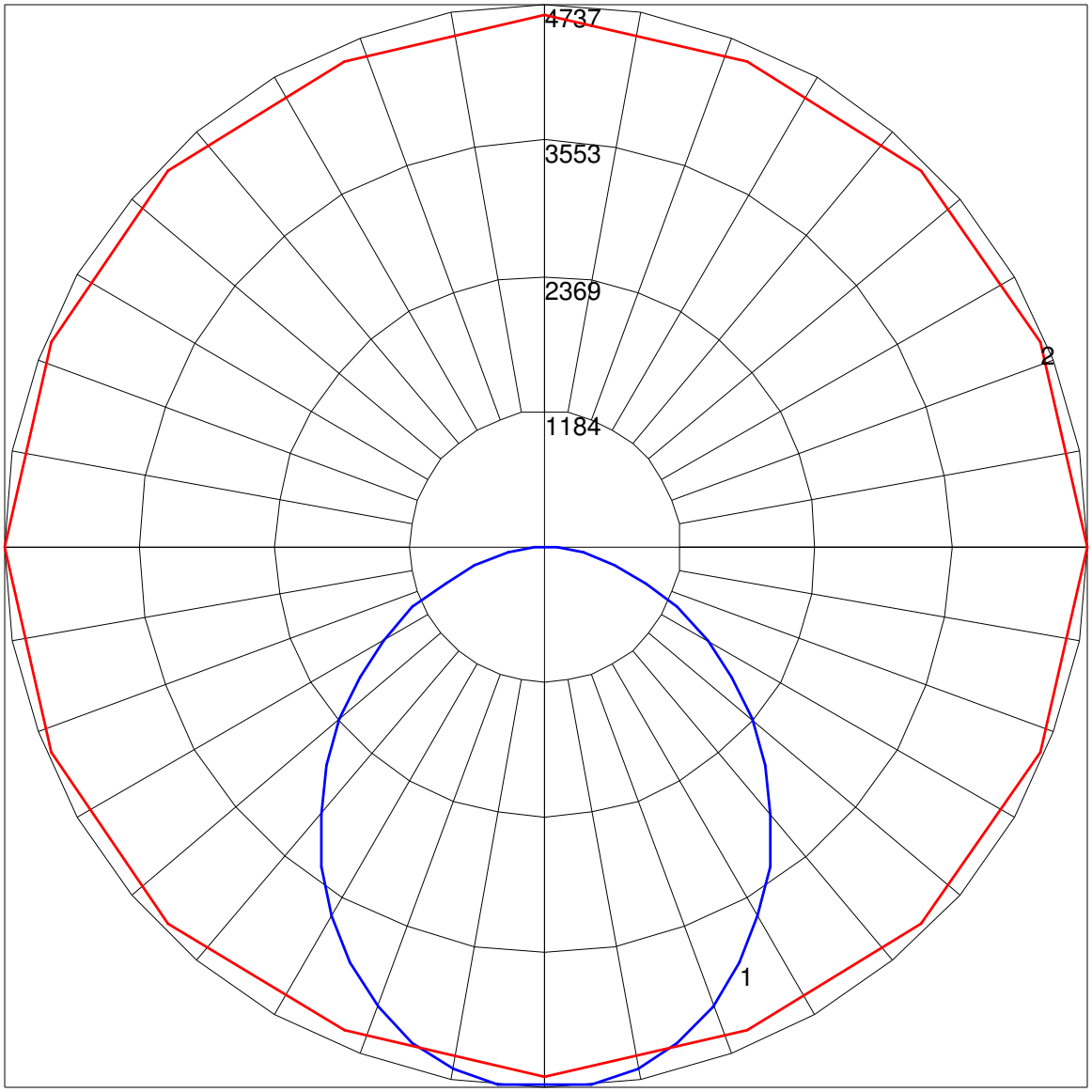
POLAR GRAPH



Maximum Candela = 4737.134 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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