H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-935-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-L110-935-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	9592
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	115
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	8570	8305	8243
55	7713	7758	7929
65	6739	7457	8169
75	5440	7529	9395
85	2521	8128	9820

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3735.396	3735.396	3735.396	3735.396	3735.396
5	3753.955	3712.714	3692.093	3640.542	3687.969
10	3681.783	3637.449	3610.643	3605.488	3612.705
15	3560.123	3516.820	3493.106	3484.858	3478.672
20	3398.252	3355.980	3316.801	3297.212	3300.305
25	3196.171	3161.117	3144.620	3093.069	3073.480
30	2960.067	2923.981	2886.864	2859.027	2843.562
35	2714.684	2681.691	2637.357	2599.209	2577.558
40	2433.214	2406.408	2360.012	2330.112	2312.585
45	2161.024	2130.094	2094.008	2077.511	2078.542
50	1873.369	1864.090	1824.911	1832.128	1841.407
55	1577.465	1577.465	1586.744	1611.489	1621.799
60	1302.182	1308.368	1350.640	1392.912	1418.688
65	1015.558	1052.675	1123.815	1197.018	1231.041
70	740.275	802.136	904.207	1002.154	1042.364
75	502.108	566.032	694.910	821.725	867.090
80	262.911	372.199	506.232	640.265	682.537
85	78.358	176.305	252.601	286.624	305.183
90	0.000	3.093	4.124	7.217	4.124

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1336.57	N.A.	13.90
0-30	2777.08	N.A.	29.00
0-40	4427.62	N.A.	46.20
0-60	7482.74	N.A.	78.00
0-80	9331.89	N.A.	97.30
0-90	9592.04	N.A.	100.00
10-90	9241.51	N.A.	96.30
20-40	3091.06	N.A.	32.20
20-50	4717.36	N.A.	49.20
40-70	4169.88	N.A.	43.50
60-80	1849.15	N.A.	19.30
70-80	734.39	N.A.	7.70
80-90	260.15	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	9592.04	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	350.53
10-20	986.04
20-30	1440.51
30-40	1650.55
40-50	1626.31
50-60	1428.81
60-70	1114.76
70-80	734.39
80-90	260.15
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	18.9	20.5	19.3	20.9	21.2	19.2	20.8	19.6	21.2	21.5
	3H	20.6	22.0	20.9	22.4	22.7	21.5	23.0	21.9	23.3	23.6
	4H	21.2	22.5	21.6	22.9	23.3	22.6	24.0	23.0	24.3	24.7
	6H	21.5	22.8	22.0	23.2	23.6	23.6	24.9	24.0	25.3	25.7
	8H	21.6	22.9	22.1	23.3	23.7	24.0	25.3	24.4	25.7	26.1
	12H	21.7	22.9	22.1	23.3	23.7	24.3	25.5	24.7	25.9	26.3
4H	2H	19.6	21.0	20.0	21.4	21.7	19.9	21.2	20.3	21.6	22.0
	3H	21.5	22.7	21.9	23.1	23.5	22.4	23.5	22.8	23.9	24.3
	4H	22.3	23.3	22.7	23.7	24.2	23.6	24.7	24.1	25.1	25.5
	6H	22.8	23.7	23.3	24.2	24.6	24.9	25.8	25.3	26.3	26.7
	8H	23.0	23.8	23.4	24.3	24.7	25.4	26.3	25.8	26.7	27.2
	12H	23.0	23.8	23.5	24.3	24.8	25.7	26.5	26.2	27.0	27.5
8H	4H	22.8	23.7	23.2	24.1	24.6	24.0	24.8	24.4	25.3	25.7
	6H	23.5	24.2	24.0	24.7	25.2	25.4	26.2	25.9	26.6	27.1
	8H	23.8	24.4	24.3	24.9	25.4	26.0	26.7	26.5	27.2	27.7
	12H	23.9	24.5	24.4	25.0	25.6	26.5	27.1	27.0	27.6	28.1
12H	4H	22.9	23.7	23.4	24.2	24.6	24.0	24.8	24.5	25.3	25.7
	6H	23.7	24.4	24.2	24.8	25.4	25.5	26.2	26.0	26.6	27.2
	8H	24.0	24.6	24.6	25.1	25.7	26.2	26.7	26.7	27.2	27.8

Maximum UGR = 28.1

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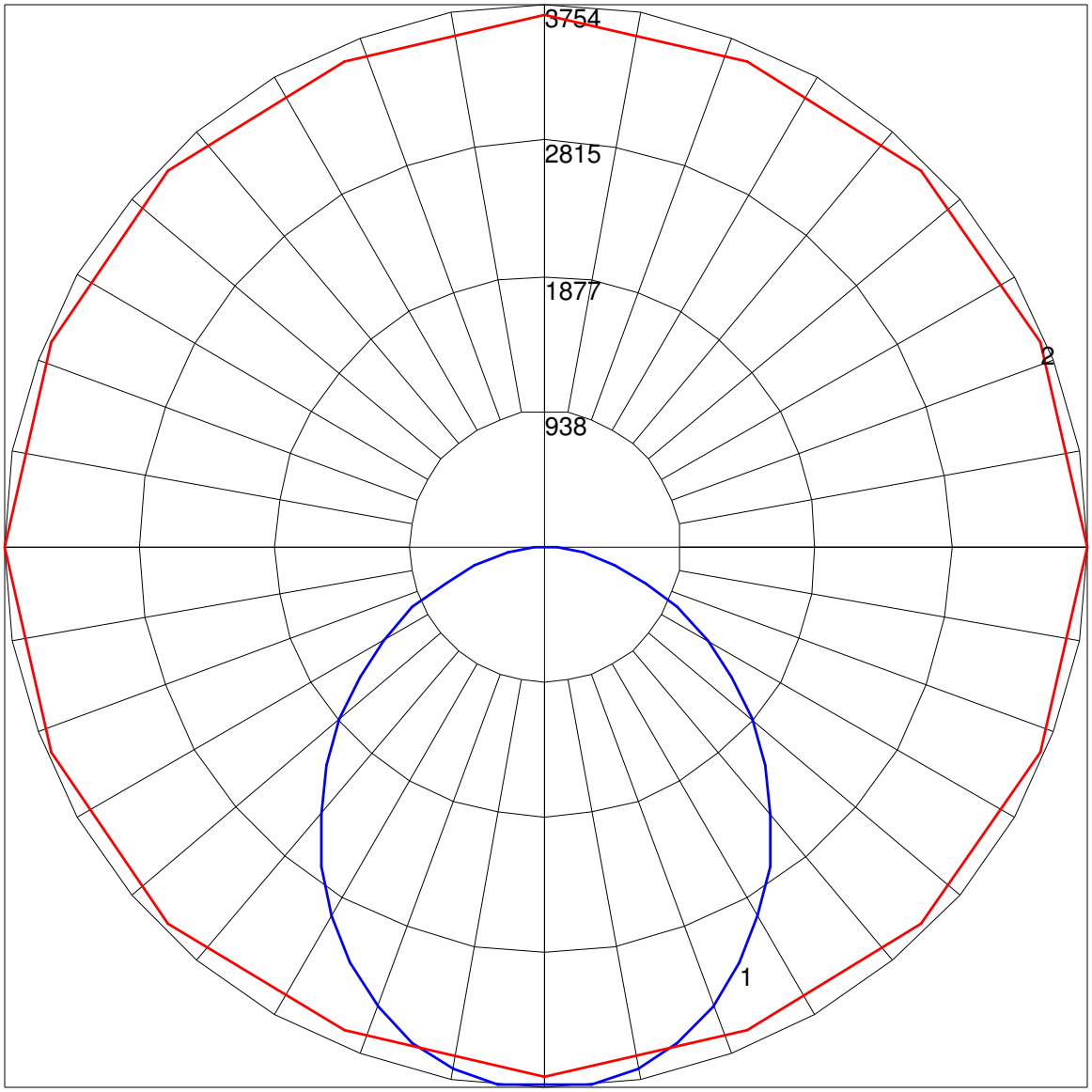
POLAR GRAPH



Maximum Candela = 3753.955 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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