H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-930-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] BALLABS TEST NO. 20789.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-23
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 1-84 LED 22"ARRAY 2x2 LUMINAIRE
[MORE] WHITE REFLECTOR w/FROST SQUARED RIBBED LENS
[MORE] ADVANCE #C1042C092V045CNN1
[LUMCAT] PT-22-L43-930-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3586
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	111
Total Luminaire Watts	32.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.14
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3205	3158	3114
55	2880	2906	2987
65	2521	2750	3088
75	1965	2769	3579
85	1022	2577	3472

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1421.083	1421.083	1421.083	1421.083	1421.083
5	1421.083	1411.914	1406.021	1406.675	1405.366
10	1390.958	1383.755	1377.861	1375.241	1373.277
15	1341.843	1336.604	1330.055	1324.816	1323.506
20	1286.178	1277.665	1261.948	1258.673	1255.399
25	1204.973	1201.699	1183.362	1174.194	1168.300
30	1112.636	1107.397	1094.954	1080.547	1070.724
35	1008.510	1009.820	994.103	979.696	973.802
40	901.765	905.040	889.323	879.500	875.570
45	799.605	797.640	787.817	784.542	776.684
50	690.895	692.860	683.691	691.550	685.001
55	582.840	588.734	588.079	604.451	604.451
60	476.750	480.680	497.706	519.972	529.795
65	375.899	385.722	409.953	442.042	460.378
70	273.739	290.765	331.368	372.625	394.891
75	179.436	209.561	252.782	300.588	326.784
80	94.957	129.011	177.472	224.623	248.853
85	31.434	52.390	79.240	96.922	106.745
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	508.56	N.A.	14.20
0-30	1054.46	N.A.	29.40
0-40	1676.22	N.A.	46.70
0-60	2817.89	N.A.	78.60
0-80	3497.37	N.A.	97.50
0-90	3585.72	N.A.	100.00
10-90	3452.1	N.A.	96.30
20-40	1167.66	N.A.	32.60
20-50	1777.52	N.A.	49.60
40-70	1552.91	N.A.	43.30
60-80	679.47	N.A.	18.90
70-80	268.24	N.A.	7.50
80-90	88.35	N.A.	2.50
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	3585.72	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	133.62
10-20	374.94
20-30	545.90
30-40	621.76
40-50	609.86
50-60	531.82
60-70	411.24
70-80	268.24
80-90	88.35
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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70
3	90	80	72	65	88	78	71	64	75	69	63	72	67	62	70	65	61	59
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53	62	57	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	41	33	27	52	40	32	27	39	32	27	38	32	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	15.4	17.0	15.8	17.3	17.6	15.8	17.4	16.1	17.7	18.0
	3H	17.0	18.5	17.4	18.8	19.2	18.0	19.5	18.4	19.8	20.2
	4H	17.6	19.0	18.0	19.3	19.7	19.1	20.5	19.5	20.8	21.2
	6H	18.0	19.2	18.4	19.6	20.0	20.1	21.4	20.5	21.8	22.2
	8H	18.1	19.3	18.5	19.7	20.1	20.5	21.7	20.9	22.1	22.5
	12H	18.1	19.3	18.5	19.7	20.1	20.8	21.9	21.2	22.3	22.8
4H	2H	16.1	17.4	16.5	17.8	18.2	16.4	17.8	16.8	18.1	18.5
	3H	17.9	19.1	18.4	19.5	19.9	18.9	20.1	19.3	20.4	20.8
	4H	18.7	19.7	19.1	20.1	20.6	20.1	21.2	20.6	21.6	22.0
	6H	19.2	20.1	19.6	20.6	21.0	21.3	22.3	21.8	22.7	23.2
	8H	19.3	20.2	19.8	20.6	21.1	21.8	22.7	22.3	23.1	23.6
	12H	19.4	20.2	19.9	20.7	21.1	22.1	22.9	22.6	23.4	23.8
8H	4H	19.2	20.1	19.6	20.5	21.0	20.4	21.3	20.9	21.8	22.2
	6H	19.9	20.6	20.4	21.1	21.6	21.8	22.6	22.3	23.0	23.5
	8H	20.1	20.7	20.6	21.2	21.7	22.4	23.0	22.9	23.6	24.0
	12H	20.2	20.8	20.7	21.3	21.9	22.8	23.4	23.3	23.9	24.4
12H	4H	19.3	20.1	19.8	20.6	21.0	20.5	21.3	20.9	21.7	22.2
	6H	20.0	20.7	20.6	21.2	21.7	21.9	22.6	22.4	23.0	23.5
	8H	20.3	20.9	20.8	21.4	22.0	22.5	23.1	23.0	23.6	24.1

Maximum UGR = 24.4

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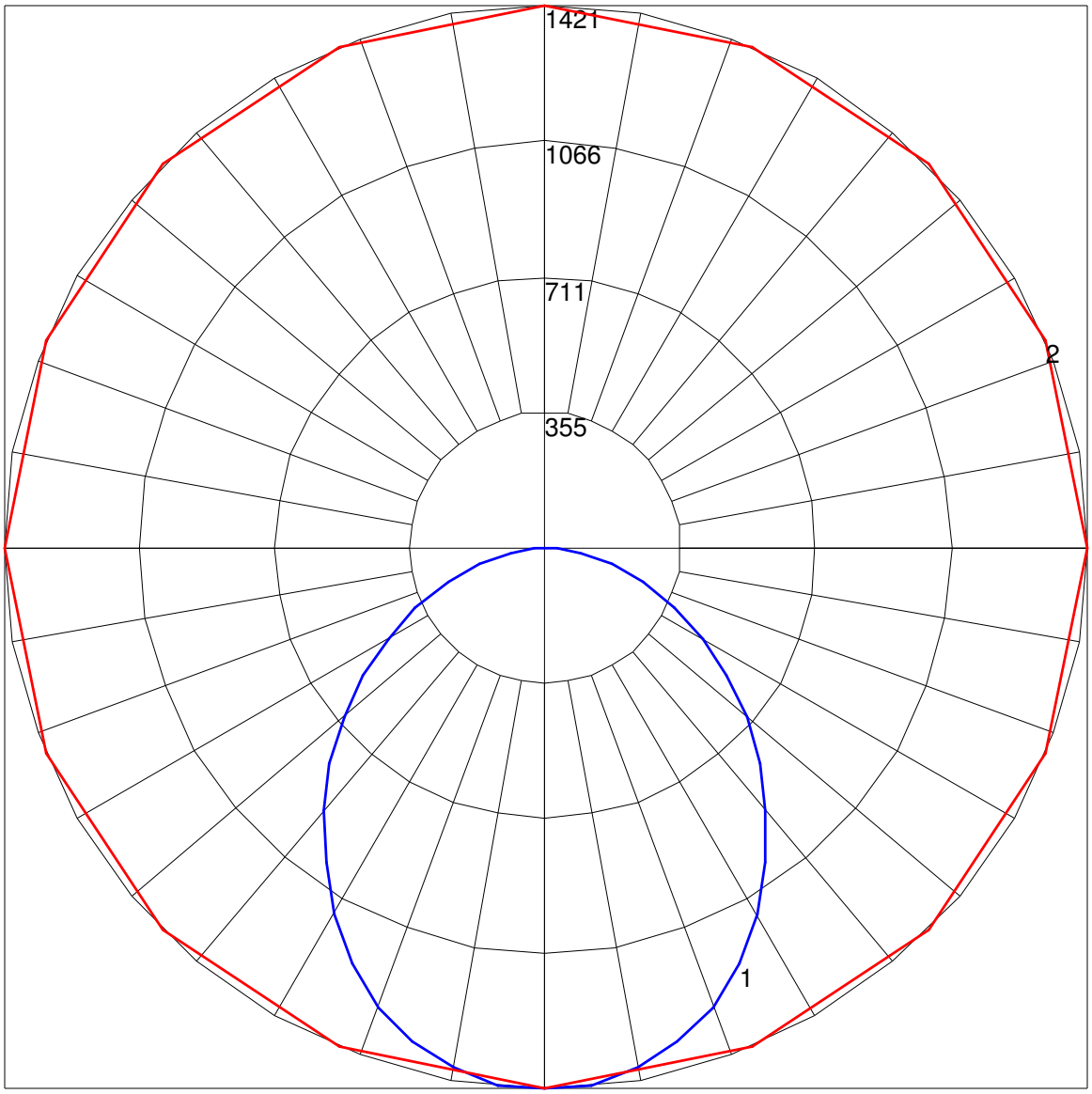
POLAR GRAPH



Maximum Candela = 1421.083 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)