H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-935-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-L43-935-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3629
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
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	3244	3196	3151
55	2915	2941	3023
65	2552	2783	3125
75	1989	2802	3622
85	1035	2608	3514

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1438.204	1438.204	1438.204	1438.204	1438.204
5	1438.204	1428.925	1422.960	1423.623	1422.298
10	1407.717	1400.426	1394.462	1391.810	1389.822
15	1358.009	1352.707	1346.080	1340.777	1339.452
20	1301.674	1293.058	1277.152	1273.838	1270.524
25	1219.491	1216.177	1197.620	1188.341	1182.376
30	1126.041	1120.739	1108.146	1093.565	1083.624
35	1020.661	1021.987	1006.080	991.499	985.534
40	912.630	915.944	900.037	890.096	886.119
45	809.238	807.250	797.309	793.995	786.042
50	699.219	701.207	691.929	699.882	693.254
55	589.863	595.827	595.165	611.734	611.734
60	482.494	486.471	503.703	526.237	536.178
65	380.428	390.370	414.892	447.368	465.925
70	277.037	294.268	335.360	377.114	399.648
75	181.598	212.085	255.828	304.210	330.721
80	96.101	130.565	179.610	227.329	251.851
85	31.813	53.021	80.195	98.089	108.031
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	514.68	N.A.	14.20
0-30	1067.16	N.A.	29.40
0-40	1696.41	N.A.	46.70
0-60	2851.85	N.A.	78.60
0-80	3539.5	N.A.	97.50
0-90	3628.92	N.A.	100.00
10-90	3493.69	N.A.	96.30
20-40	1181.73	N.A.	32.60
20-50	1798.94	N.A.	49.60
40-70	1571.62	N.A.	43.30
60-80	687.66	N.A.	18.90
70-80	271.47	N.A.	7.50
80-90	89.41	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	3628.92	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	135.23
10-20	379.46
20-30	552.48
30-40	629.25
40-50	617.21
50-60	538.22
60-70	416.19
70-80	271.47
80-90	89.41
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	55	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	15.5	17.1	15.9	17.4	17.7	15.9	17.5	16.2	17.8	18.1
	3H	17.1	18.6	17.5	18.9	19.3	18.1	19.6	18.5	19.9	20.3
	4H	17.7	19.1	18.1	19.4	19.8	19.2	20.6	19.6	20.9	21.3
	6H	18.1	19.3	18.5	19.7	20.1	20.2	21.5	20.6	21.9	22.3
	8H	18.2	19.4	18.6	19.8	20.2	20.6	21.8	21.0	22.2	22.6
	12H	18.2	19.4	18.6	19.8	20.2	20.9	22.0	21.3	22.4	22.9
4H	2H	16.2	17.5	16.6	17.9	18.3	16.5	17.9	16.9	18.2	18.6
	3H	18.0	19.2	18.5	19.6	20.0	19.0	20.2	19.4	20.5	20.9
	4H	18.8	19.8	19.2	20.2	20.7	20.2	21.3	20.7	21.7	22.1
	6H	19.3	20.2	19.7	20.7	21.1	21.4	22.4	21.9	22.8	23.3
	8H	19.4	20.3	19.9	20.7	21.2	21.9	22.8	22.4	23.2	23.7
	12H	19.5	20.3	20.0	20.8	21.2	22.2	23.0	22.7	23.5	23.9
8H	4H	19.3	20.2	19.7	20.6	21.1	20.5	21.4	21.0	21.9	22.3
	6H	20.0	20.7	20.5	21.2	21.7	21.9	22.7	22.4	23.1	23.6
	8H	20.2	20.8	20.7	21.3	21.8	22.5	23.1	23.0	23.7	24.1
	12H	20.3	20.9	20.8	21.4	22.0	22.9	23.5	23.4	24.0	24.5
12H	4H	19.4	20.2	19.9	20.7	21.1	20.6	21.4	21.0	21.8	22.3
	6H	20.1	20.8	20.7	21.3	21.8	22.0	22.7	22.5	23.1	23.6
	8H	20.4	21.0	20.9	21.5	22.1	22.6	23.2	23.1	23.7	24.2

Maximum UGR = 24.5

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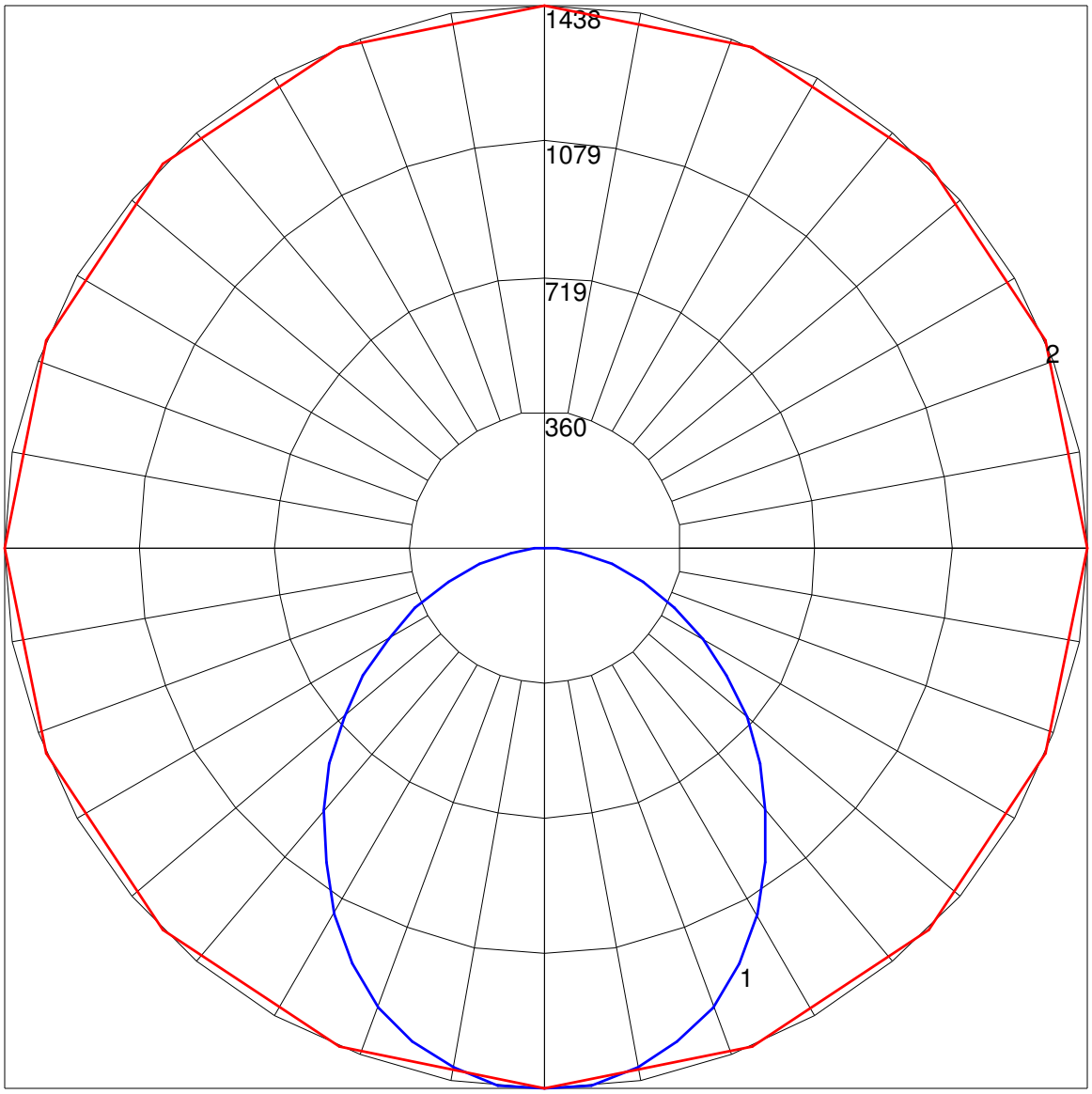
POLAR GRAPH



Maximum Candela = 1438.204 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.)