H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-927-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-L43-927-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3543
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
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	3167	3120	3076
55	2846	2871	2951
65	2491	2717	3051
75	1942	2735	3536
85	1010	2546	3430

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1403.961	1403.961	1403.961	1403.961	1403.961
5	1403.961	1394.903	1389.080	1389.727	1388.434
10	1374.200	1367.083	1361.260	1358.672	1356.731
15	1325.676	1320.500	1314.030	1308.854	1307.560
20	1270.682	1262.271	1246.743	1243.508	1240.274
25	1190.456	1187.221	1169.105	1160.047	1154.224
30	1099.230	1094.055	1081.762	1067.528	1057.823
35	996.360	997.654	982.126	967.892	962.069
40	890.901	894.136	878.608	868.903	865.021
45	789.971	788.030	778.325	775.090	767.326
50	682.571	684.512	675.454	683.218	676.748
55	575.818	581.641	580.994	597.169	597.169
60	471.006	474.888	491.710	513.707	523.412
65	371.370	381.075	405.014	436.716	454.832
70	270.440	287.262	327.375	368.135	390.133
75	177.274	207.036	249.737	296.967	322.846
80	93.813	127.456	175.333	221.916	245.855
85	31.055	51.759	78.285	95.754	105.459
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	502.43	N.A.	14.20
0-30	1041.75	N.A.	29.40
0-40	1656.02	N.A.	46.70
0-60	2783.94	N.A.	78.60
0-80	3455.23	N.A.	97.50
0-90	3542.52	N.A.	100.00
10-90	3410.51	N.A.	96.30
20-40	1153.6	N.A.	32.60
20-50	1756.11	N.A.	49.60
40-70	1534.2	N.A.	43.30
60-80	671.29	N.A.	18.90
70-80	265.00	N.A.	7.50
80-90	87.28	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	3542.52	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	132.01
10-20	370.42
20-30	539.33
30-40	614.27
40-50	602.51
50-60	525.41
60-70	406.28
70-80	265.00
80-90	87.28
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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	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	17.9	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	20.0	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	22.2	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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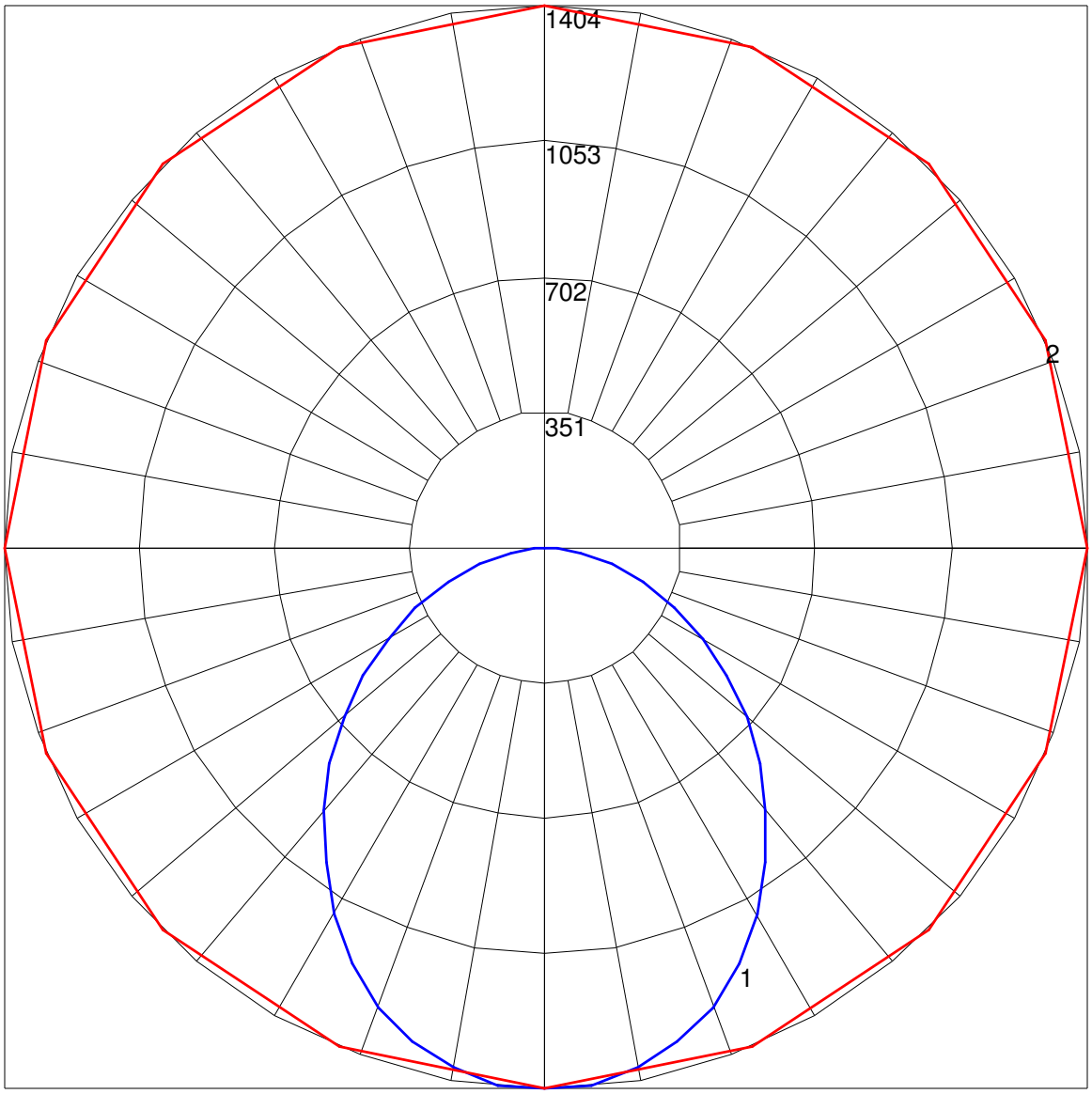
POLAR GRAPH



Maximum Candela = 1403.961 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.)