H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-840-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-L43-840-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4450
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
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	3978	3919	3864
55	3574	3607	3707
65	3129	3412	3832
75	2439	3436	4441
85	1269	3198	4308

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1763.512	1763.512	1763.512	1763.512	1763.512
5	1763.512	1752.135	1744.821	1745.633	1744.008
10	1726.129	1717.190	1709.876	1706.625	1704.187
15	1665.178	1658.677	1650.550	1644.049	1642.423
20	1596.101	1585.536	1566.032	1561.968	1557.905
25	1495.328	1491.265	1468.510	1457.133	1449.818
30	1380.741	1374.239	1358.798	1340.920	1328.729
35	1251.525	1253.150	1233.646	1215.767	1208.453
40	1119.058	1123.122	1103.617	1091.427	1086.551
45	992.280	989.842	977.652	973.589	963.837
50	857.376	859.814	848.436	858.189	850.062
55	723.284	730.598	729.785	750.102	750.102
60	591.630	596.506	617.636	645.267	657.457
65	466.477	478.668	508.737	548.558	571.313
70	339.700	360.829	411.215	462.414	490.045
75	222.674	260.057	313.694	373.019	405.527
80	117.838	160.098	220.236	278.749	308.818
85	39.009	65.014	98.334	120.276	132.467
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	631.10	N.A.	14.20
0-30	1308.54	N.A.	29.40
0-40	2080.13	N.A.	46.70
0-60	3496.91	N.A.	78.60
0-80	4340.11	N.A.	97.50
0-90	4449.75	N.A.	100.00
10-90	4283.93	N.A.	96.30
20-40	1449.03	N.A.	32.60
20-50	2205.84	N.A.	49.60
40-70	1927.11	N.A.	43.30
60-80	843.20	N.A.	18.90
70-80	332.87	N.A.	7.50
80-90	109.64	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	4449.75	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	165.81
10-20	465.29
20-30	677.45
30-40	771.58
40-50	756.81
50-60	659.97
60-70	510.33
70-80	332.87
80-90	109.64
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	16.2	17.8	16.6	18.1	18.4	16.6	18.2	16.9	18.5	18.8
	3H	17.8	19.3	18.2	19.6	20.0	18.8	20.3	19.2	20.6	21.0
	4H	18.4	19.8	18.8	20.1	20.5	19.9	21.3	20.3	21.6	22.0
	6H	18.8	20.0	19.2	20.4	20.8	20.9	22.2	21.3	22.6	23.0
	8H	18.9	20.1	19.3	20.5	20.9	21.3	22.5	21.7	22.9	23.3
	12H	18.9	20.1	19.3	20.5	20.9	21.6	22.7	22.0	23.1	23.6
4H	2H	16.9	18.2	17.3	18.6	19.0	17.2	18.6	17.6	18.9	19.3
	3H	18.7	19.9	19.2	20.3	20.7	19.7	20.8	20.1	21.2	21.6
	4H	19.5	20.5	19.9	20.9	21.4	20.9	22.0	21.4	22.4	22.8
	6H	20.0	20.9	20.4	21.4	21.8	22.1	23.1	22.6	23.5	24.0
	8H	20.1	21.0	20.6	21.4	21.9	22.6	23.5	23.0	23.9	24.4
	12H	20.2	21.0	20.7	21.5	21.9	22.9	23.7	23.4	24.2	24.6
8H	4H	20.0	20.9	20.4	21.3	21.8	21.2	22.1	21.7	22.6	23.0
	6H	20.7	21.4	21.2	21.9	22.4	22.6	23.4	23.1	23.8	24.3
	8H	20.9	21.5	21.4	22.0	22.5	23.2	23.8	23.7	24.4	24.8
	12H	21.0	21.6	21.5	22.1	22.7	23.6	24.2	24.1	24.7	25.2
12H	4H	20.1	20.9	20.6	21.4	21.8	21.3	22.1	21.7	22.5	23.0
	6H	20.8	21.5	21.4	22.0	22.5	22.7	23.4	23.2	23.8	24.3
	8H	21.1	21.7	21.6	22.2	22.8	23.3	23.9	23.8	24.4	24.9

Maximum UGR = 25.2

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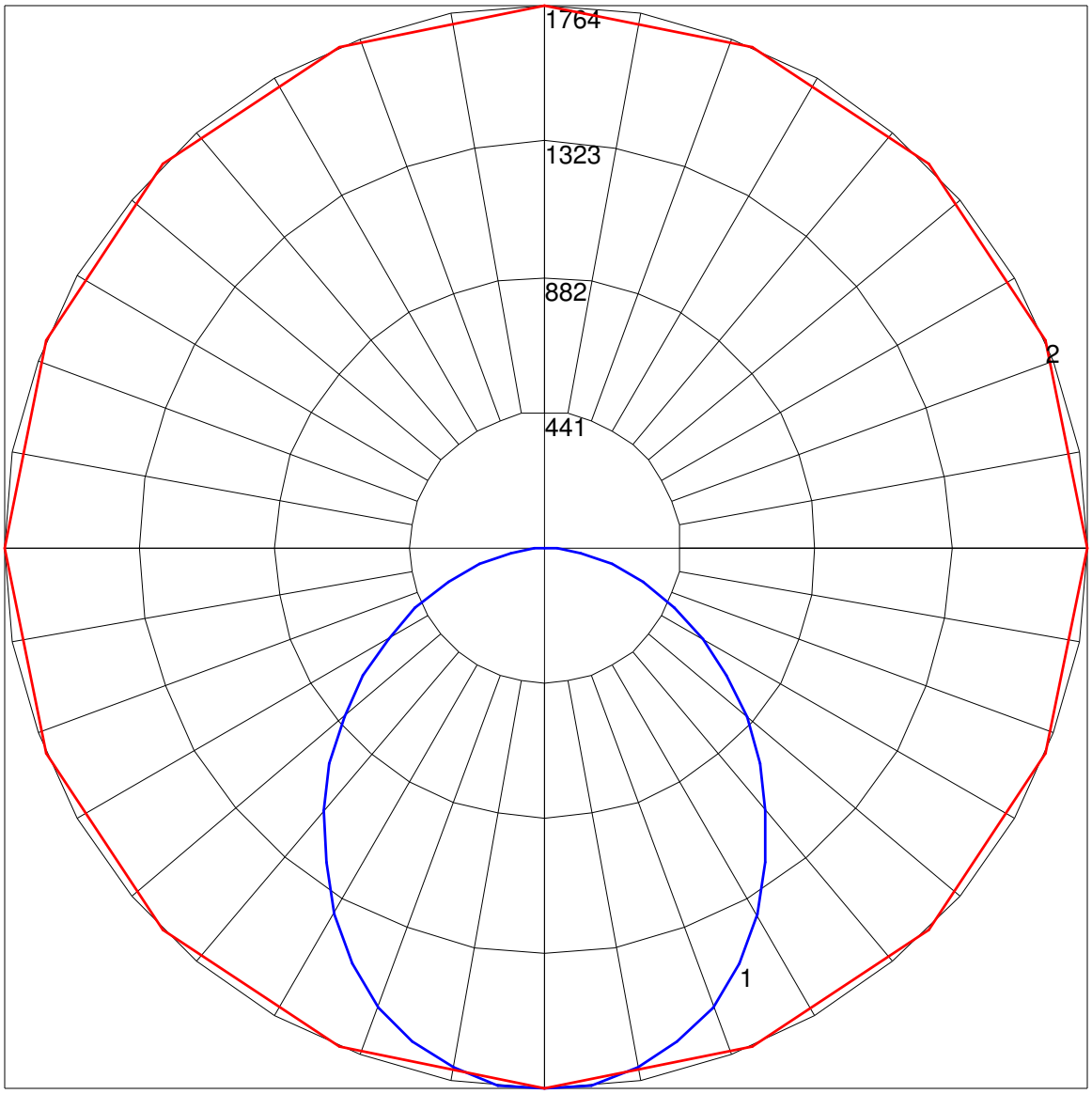
POLAR GRAPH



Maximum Candela = 1763.512 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.)