H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L52-940-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-L52-940-SA-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4723
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	41.6
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	4222	4159	4101
55	3794	3828	3934
65	3321	3621	4067
75	2588	3646	4714
85	1346	3394	4572

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1871.630	1871.630	1871.630	1871.630	1871.630
5	1871.630	1859.555	1851.792	1852.655	1850.930
10	1831.955	1822.467	1814.705	1811.255	1808.667
15	1767.267	1760.367	1751.742	1744.842	1743.117
20	1693.954	1682.742	1662.042	1657.729	1653.417
25	1587.004	1582.692	1558.542	1546.466	1538.704
30	1465.391	1458.491	1442.104	1423.129	1410.191
35	1328.253	1329.978	1309.278	1290.303	1282.541
40	1187.666	1191.978	1171.278	1158.340	1153.165
45	1053.115	1050.528	1037.590	1033.278	1022.928
50	909.940	912.527	900.452	910.802	902.177
55	767.627	775.389	774.527	796.090	796.090
60	627.902	633.077	655.502	684.827	697.764
65	495.076	508.014	539.926	582.189	606.339
70	360.526	382.951	436.426	490.764	520.089
75	236.326	276.001	332.926	395.889	430.389
80	125.063	169.913	233.738	295.838	327.751
85	41.400	69.000	104.363	127.650	140.588
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	669.79	N.A.	14.20
0-30	1388.77	N.A.	29.40
0-40	2207.66	N.A.	46.70
0-60	3711.29	N.A.	78.60
0-80	4606.19	N.A.	97.50
0-90	4722.55	N.A.	100.00
10-90	4546.57	N.A.	96.30
20-40	1537.87	N.A.	32.60
20-50	2341.08	N.A.	49.60
40-70	2045.26	N.A.	43.30
60-80	894.90	N.A.	18.90
70-80	353.28	N.A.	7.50
80-90	116.36	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	4722.55	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	175.98
10-20	493.81
20-30	718.98
30-40	818.89
40-50	803.21
50-60	700.43
60-70	541.62
70-80	353.28
80-90	116.36
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	16.4	18.0	16.8	18.3	18.6	16.8	18.4	17.1	18.7	19.0
	3H	18.0	19.5	18.4	19.8	20.2	19.0	20.5	19.4	20.8	21.2
	4H	18.6	20.0	19.0	20.3	20.7	20.1	21.5	20.5	21.8	22.2
	6H	18.9	20.2	19.4	20.6	21.0	21.1	22.4	21.5	22.8	23.2
	8H	19.1	20.3	19.5	20.7	21.1	21.5	22.7	21.9	23.1	23.5
	12H	19.1	20.3	19.5	20.7	21.1	21.8	22.9	22.2	23.3	23.8
4H	2H	17.1	18.4	17.5	18.8	19.2	17.4	18.8	17.8	19.1	19.5
	3H	18.9	20.1	19.4	20.5	20.9	19.9	21.0	20.3	21.4	21.8
	4H	19.7	20.7	20.1	21.1	21.6	21.1	22.2	21.6	22.6	23.0
	6H	20.2	21.1	20.6	21.6	22.0	22.3	23.3	22.8	23.7	24.2
	8H	20.3	21.2	20.8	21.6	22.1	22.8	23.7	23.2	24.1	24.6
	12H	20.4	21.2	20.9	21.7	22.1	23.1	23.9	23.6	24.4	24.8
8H	4H	20.2	21.1	20.6	21.5	22.0	21.4	22.3	21.9	22.8	23.2
	6H	20.9	21.6	21.4	22.1	22.6	22.8	23.6	23.3	24.0	24.5
	8H	21.1	21.7	21.6	22.2	22.7	23.4	24.0	23.9	24.6	25.0
	12H	21.2	21.8	21.7	22.3	22.9	23.8	24.4	24.3	24.9	25.4
12H	4H	20.3	21.1	20.8	21.6	22.0	21.5	22.3	21.9	22.7	23.2
	6H	21.0	21.7	21.6	22.2	22.7	22.9	23.6	23.4	24.0	24.5
	8H	21.3	21.9	21.8	22.4	23.0	23.5	24.1	24.0	24.6	25.1

Maximum UGR = 25.4

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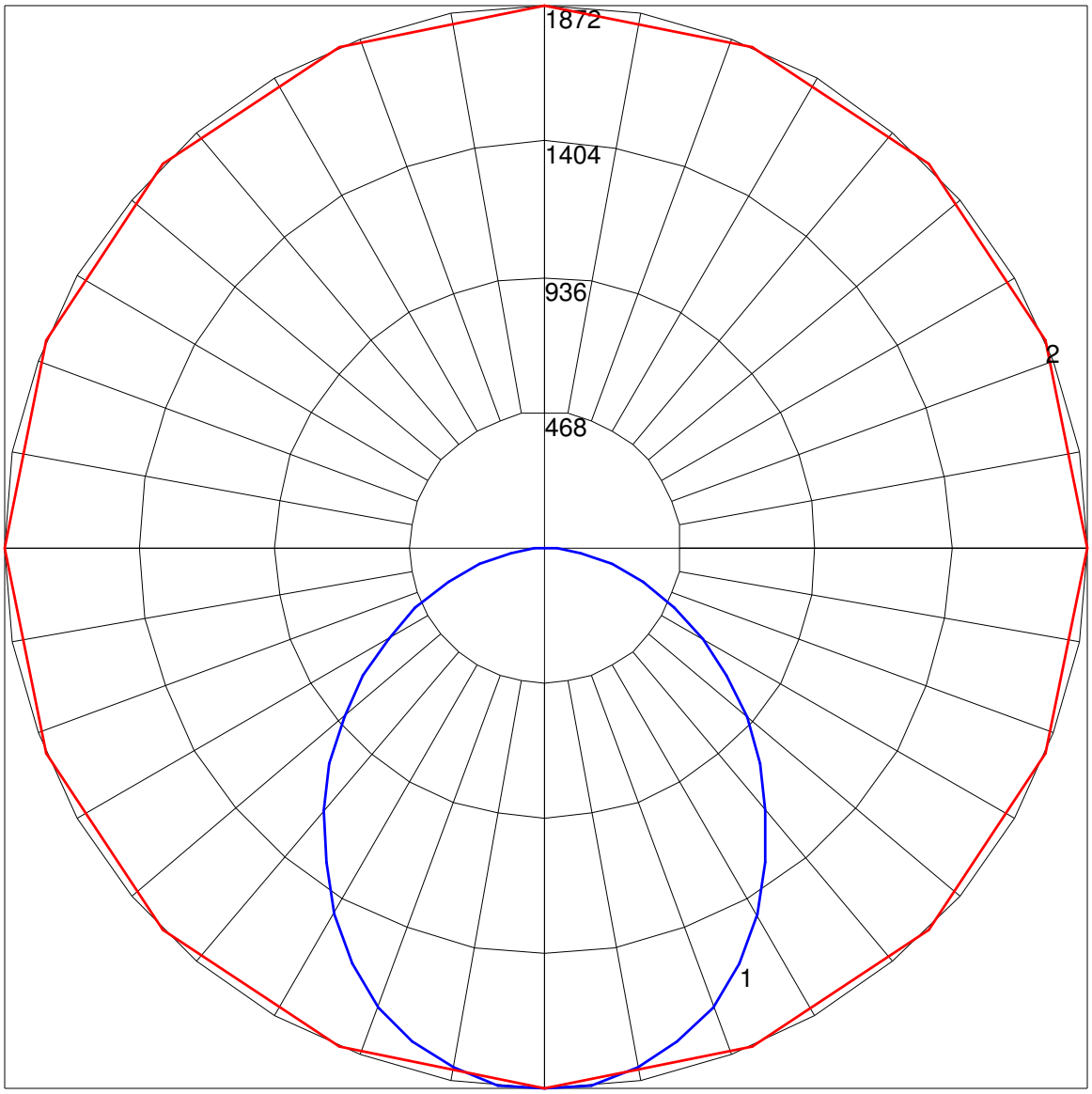
POLAR GRAPH



Maximum Candela = 1871.63 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.)