H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-940-RA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19562.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-23
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2x2'RECESSED LED LUMINAIRE
[MORE] WHITE REFLECTOR w/CENTER FROSTED RIBBED ACRYLIC LENS
[MORE] ELECTRONIC 0-10V LED DRIVER
[LUMCAT] PT-22-L43-940-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAY

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3607
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	112
Total Luminaire Watts	32.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.24
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.93 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3389	3515	3629
55	2865	3157	3369
65	2190	2739	3046
75	1522	2429	3003
85	867	1982	2477

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1378.404	1378.404	1378.404	1378.404	1378.404
5	1383.039	1374.696	1372.842	1368.208	1368.208
10	1364.500	1356.157	1355.230	1350.595	1349.668
15	1332.056	1322.786	1321.859	1320.005	1319.078
20	1285.707	1277.365	1276.438	1277.365	1277.365
25	1220.819	1212.477	1218.038	1221.746	1218.038
30	1141.100	1137.392	1142.954	1149.443	1144.808
35	1049.330	1048.403	1060.454	1065.088	1069.723
40	943.655	943.655	964.049	972.391	979.807
45	823.149	823.149	853.739	873.206	881.548
50	696.154	697.081	737.868	763.823	775.874
55	564.525	574.721	621.997	649.806	663.710
60	435.676	456.069	503.345	533.935	548.766
65	317.951	344.833	397.670	431.041	442.165
70	214.130	247.501	300.338	334.636	347.614
75	135.338	167.782	215.984	250.282	266.967
80	73.231	101.040	143.680	167.782	184.467
85	25.955	45.422	59.326	59.326	74.158
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	503.62	N.A.	14.00
0-30	1064.21	N.A.	29.50
0-40	1725.23	N.A.	47.80
0-60	2930.92	N.A.	81.30
0-80	3540.68	N.A.	98.20
0-90	3606.66	N.A.	100.00
10-90	3476.19	N.A.	96.40
20-40	1221.61	N.A.	33.90
20-50	1877.08	N.A.	52.00
40-70	1592.77	N.A.	44.20
60-80	609.76	N.A.	16.90
70-80	222.68	N.A.	6.20
80-90	65.98	N.A.	1.80
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	3606.66	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	130.47
10-20	373.15
20-30	560.59
30-40	661.02
40-50	655.47
50-60	550.22
60-70	387.08
70-80	222.68
80-90	65.98
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	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	81	73	66	89	79	72	66	76	70	65	73	68	63	71	66	62	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	49	61	54	48	59	53	48	57	52	47	45
6	71	58	49	43	69	57	49	43	55	48	42	54	47	42	52	46	42	40
7	66	53	44	38	64	52	44	38	50	43	38	49	42	37	48	42	37	35
8	62	48	40	34	60	47	39	34	46	39	34	45	38	33	44	38	33	31
9	58	44	36	31	56	44	36	31	43	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	28	38	32	28	38	32	27	26

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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	15.3	16.9	15.6	17.2	17.5	16.3	17.9	16.7	18.2	18.5
	3H	16.6	18.0	16.9	18.3	18.7	18.1	19.6	18.5	19.9	20.3
	4H	17.0	18.3	17.4	18.7	19.1	18.9	20.3	19.3	20.6	21.0
	6H	17.2	18.5	17.7	18.9	19.3	19.6	20.9	20.0	21.2	21.6
	8H	17.3	18.5	17.7	18.9	19.3	19.8	21.0	20.3	21.4	21.8
	12H	17.3	18.5	17.8	18.9	19.3	20.0	21.1	20.4	21.5	22.0
4H	2H	16.0	17.3	16.4	17.7	18.1	16.8	18.2	17.2	18.5	18.9
	3H	17.5	18.6	17.9	19.0	19.4	18.9	20.0	19.3	20.4	20.8
	4H	18.1	19.1	18.5	19.5	19.9	19.8	20.8	20.2	21.2	21.7
	6H	18.4	19.3	18.9	19.8	20.2	20.7	21.6	21.1	22.0	22.5
	8H	18.5	19.4	19.0	19.8	20.3	21.0	21.8	21.4	22.2	22.7
	12H	18.6	19.4	19.1	19.8	20.3	21.2	21.9	21.7	22.4	22.9
8H	4H	18.5	19.3	19.0	19.8	20.3	20.1	20.9	20.5	21.3	21.8
	6H	19.0	19.7	19.5	20.2	20.7	21.0	21.7	21.5	22.2	22.7
	8H	19.2	19.8	19.7	20.4	20.8	21.4	22.1	22.0	22.6	23.1
	12H	19.3	19.9	19.8	20.4	20.9	21.7	22.3	22.2	22.7	23.3
12H	4H	18.6	19.3	19.1	19.8	20.3	20.1	20.8	20.5	21.3	21.8
	6H	19.2	19.8	19.7	20.3	20.8	21.1	21.7	21.6	22.2	22.7
	8H	19.4	20.0	19.9	20.5	21.0	21.5	22.1	22.0	22.6	23.1

Maximum UGR = 23.3

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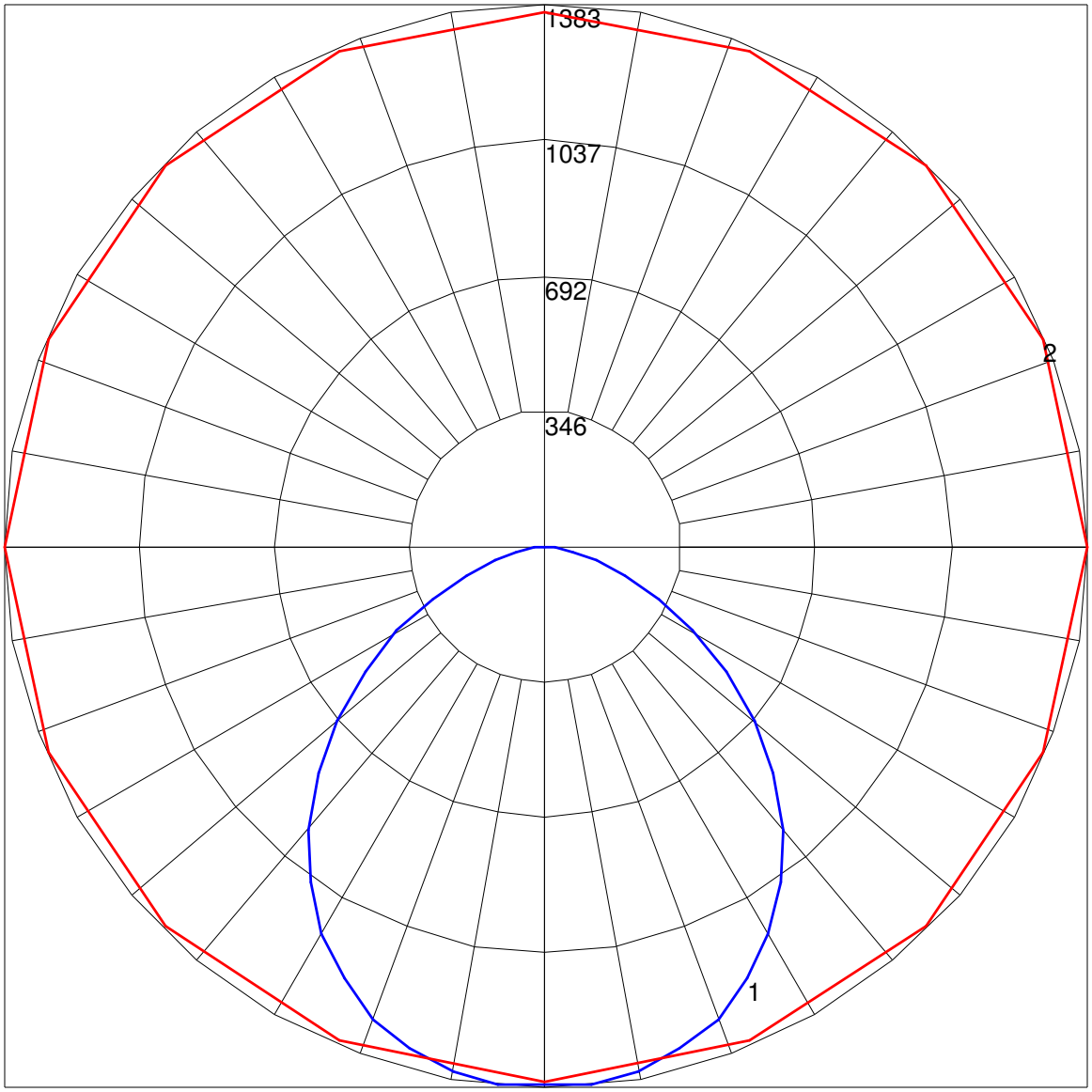
POLAR GRAPH



Maximum Candela = 1383.039 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)

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