H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-22-L43-935-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-L43-935-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAY

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3523
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	109
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	3310	3433	3545
55	2799	3083	3290
65	2139	2676	2975
75	1487	2373	2933
85	847	1935	2419

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1346.348	1346.348	1346.348	1346.348	1346.348
5	1350.875	1342.727	1340.916	1336.389	1336.389
10	1332.767	1324.618	1323.713	1319.186	1318.281
15	1301.078	1292.024	1291.118	1289.307	1288.402
20	1255.807	1247.658	1246.753	1247.658	1247.658
25	1192.428	1184.280	1189.712	1193.334	1189.712
30	1114.563	1110.941	1116.374	1122.711	1118.184
35	1024.927	1024.022	1035.792	1040.319	1044.846
40	921.710	921.710	941.629	949.778	957.021
45	804.006	804.006	833.885	852.899	861.047
50	679.965	680.870	720.708	746.060	757.830
55	551.396	561.356	607.532	634.694	648.275
60	425.544	445.463	491.639	521.518	536.004
65	310.556	336.813	388.422	421.017	431.882
70	209.150	241.745	293.354	326.854	339.530
75	132.190	163.880	210.961	244.461	260.759
80	71.528	98.690	140.339	163.880	180.177
85	25.352	44.365	57.946	57.946	72.433
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	491.91	N.A.	14.00
0-30	1039.46	N.A.	29.50
0-40	1685.11	N.A.	47.80
0-60	2862.76	N.A.	81.30
0-80	3458.34	N.A.	98.20
0-90	3522.78	N.A.	100.00
10-90	3395.35	N.A.	96.40
20-40	1193.21	N.A.	33.90
20-50	1833.43	N.A.	52.00
40-70	1555.73	N.A.	44.20
60-80	595.58	N.A.	16.90
70-80	217.50	N.A.	6.20
80-90	64.44	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	3522.78	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	127.43
10-20	364.48
20-30	547.56
30-40	645.65
40-50	640.22
50-60	537.42
60-70	378.08
70-80	217.50
80-90	64.44
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	100	91	85	79	97	90	83	78	86	81	76	83	79	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	15.2	16.8	15.5	17.1	17.4	16.2	17.8	16.6	18.1	18.4
	3H	16.5	17.9	16.8	18.2	18.6	18.0	19.5	18.4	19.8	20.2
	4H	16.9	18.2	17.3	18.6	19.0	18.8	20.2	19.2	20.5	20.9
	6H	17.1	18.4	17.6	18.8	19.2	19.5	20.8	19.9	21.1	21.5
	8H	17.2	18.4	17.6	18.8	19.2	19.7	20.9	20.2	21.3	21.7
	12H	17.2	18.4	17.7	18.8	19.2	19.9	21.0	20.3	21.4	21.9
4H	2H	15.9	17.2	16.3	17.6	18.0	16.7	18.1	17.1	18.4	18.8
	3H	17.4	18.5	17.8	18.9	19.3	18.8	19.9	19.2	20.3	20.7
	4H	18.0	19.0	18.4	19.4	19.8	19.7	20.7	20.1	21.1	21.6
	6H	18.3	19.2	18.8	19.7	20.1	20.6	21.5	21.0	21.9	22.4
	8H	18.4	19.3	18.9	19.7	20.2	20.9	21.7	21.3	22.1	22.6
	12H	18.5	19.3	19.0	19.7	20.2	21.1	21.8	21.5	22.3	22.8
8H	4H	18.4	19.2	18.9	19.7	20.1	20.0	20.8	20.4	21.2	21.7
	6H	18.9	19.6	19.4	20.1	20.6	20.9	21.6	21.4	22.1	22.6
	8H	19.1	19.7	19.6	20.3	20.7	21.3	22.0	21.9	22.5	23.0
	12H	19.2	19.8	19.7	20.3	20.8	21.6	22.2	22.1	22.6	23.2
12H	4H	18.5	19.2	19.0	19.7	20.2	20.0	20.7	20.4	21.2	21.7
	6H	19.1	19.7	19.6	20.2	20.7	21.0	21.6	21.5	22.1	22.6
	8H	19.3	19.9	19.8	20.4	20.9	21.4	22.0	21.9	22.5	23.0

Maximum UGR = 23.2

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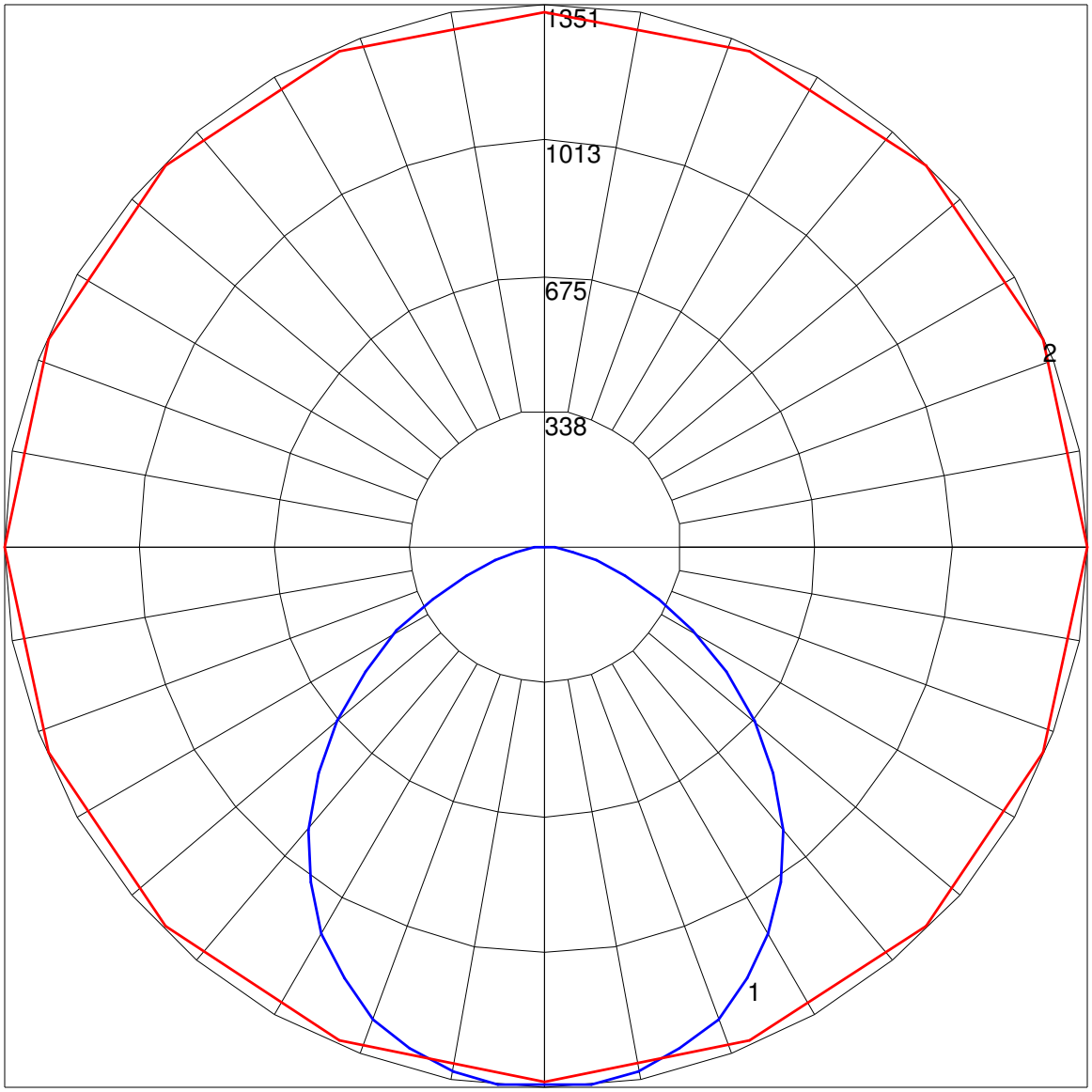
POLAR GRAPH



Maximum Candela = 1350.875 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.)