H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L38-840-SA-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 20790.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2 X 4 RECESSED LED LUMINAIRE WITH
[MORE] FROST SQUARED RIBBED LENS
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L38-840-SA-DIM-UNV
[LAMPCAT] 22 INCH LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4013
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	28.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.98 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3585	3474	3448
55	3226	3245	3317
65	2819	3119	3417
75	2276	3150	3930
85	1055	3400	4108

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1562.576	1562.576	1562.576	1562.576	1562.576
5	1570.340	1553.088	1544.462	1522.897	1542.737
10	1540.149	1521.603	1510.390	1508.233	1511.252
15	1489.256	1471.142	1461.222	1457.772	1455.184
20	1421.543	1403.860	1387.471	1379.277	1380.570
25	1337.010	1322.346	1315.445	1293.880	1285.686
30	1238.244	1223.148	1207.622	1195.977	1189.507
35	1135.596	1121.794	1103.249	1087.291	1078.234
40	1017.853	1006.639	987.231	974.723	967.391
45	903.991	891.052	875.957	869.056	869.488
50	783.660	779.779	763.389	766.409	770.290
55	659.879	659.879	663.761	674.112	678.425
60	544.724	547.311	564.994	582.678	593.460
65	424.824	440.351	470.110	500.732	514.964
70	309.669	335.546	378.244	419.217	436.038
75	210.040	236.780	290.692	343.741	362.718
80	109.980	155.697	211.765	267.833	285.516
85	32.778	73.751	105.667	119.900	127.663
90	0.000	1.294	1.725	3.019	1.725

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	559.11	N.A.	13.90
0-30	1161.7	N.A.	29.00
0-40	1852.15	N.A.	46.20
0-60	3130.15	N.A.	78.00
0-80	3903.68	N.A.	97.30
0-90	4012.5	N.A.	100.00
10-90	3865.87	N.A.	96.30
20-40	1293.04	N.A.	32.20
20-50	1973.35	N.A.	49.20
40-70	1744.33	N.A.	43.50
60-80	773.53	N.A.	19.30
70-80	307.21	N.A.	7.70
80-90	108.82	N.A.	2.70
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	4012.5	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	146.63
10-20	412.48
20-30	602.59
30-40	690.45
40-50	680.31
50-60	597.69
60-70	466.32
70-80	307.21
80-90	108.82
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	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	77	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	62	55	80	69	61	55	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	54	47	60	52	47	58	51	46	56	50	46	44
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41	51	45	40	38
7	65	52	43	37	64	51	43	37	49	42	36	48	41	36	47	41	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30
9	57	44	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	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	15.8	17.4	16.2	17.8	18.1	16.1	17.7	16.5	18.1	18.4
	3H	17.5	18.9	17.8	19.3	19.6	18.4	19.9	18.8	20.2	20.5
	4H	18.1	19.4	18.5	19.8	20.2	19.5	20.9	19.9	21.2	21.6
	6H	18.4	19.7	18.9	20.1	20.5	20.5	21.8	20.9	22.2	22.6
	8H	18.5	19.8	19.0	20.2	20.6	20.9	22.2	21.3	22.6	23.0
	12H	18.6	19.8	19.0	20.2	20.6	21.2	22.4	21.6	22.8	23.2
4H	2H	16.5	17.9	16.9	18.3	18.6	16.8	18.1	17.2	18.5	18.9
	3H	18.4	19.6	18.8	20.0	20.4	19.3	20.4	19.7	20.8	21.2
	4H	19.2	20.2	19.6	20.6	21.1	20.5	21.6	21.0	22.0	22.4
	6H	19.7	20.6	20.2	21.1	21.5	21.8	22.7	22.2	23.2	23.6
	8H	19.9	20.7	20.3	21.2	21.6	22.3	23.1	22.7	23.6	24.1
	12H	19.9	20.7	20.4	21.2	21.7	22.6	23.4	23.1	23.9	24.3
8H	4H	19.7	20.6	20.1	21.0	21.5	20.9	21.7	21.3	22.2	22.6
	6H	20.4	21.1	20.9	21.6	22.1	22.3	23.1	22.8	23.5	24.0
	8H	20.7	21.3	21.2	21.8	22.3	22.9	23.6	23.4	24.1	24.6
	12H	20.8	21.4	21.3	21.9	22.5	23.4	24.0	23.9	24.5	25.0
12H	4H	19.8	20.6	20.3	21.1	21.5	20.9	21.7	21.4	22.2	22.6
	6H	20.6	21.3	21.1	21.7	22.3	22.4	23.1	22.9	23.5	24.1
	8H	20.9	21.5	21.5	22.0	22.6	23.1	23.6	23.6	24.1	24.7

Maximum UGR = 25.0

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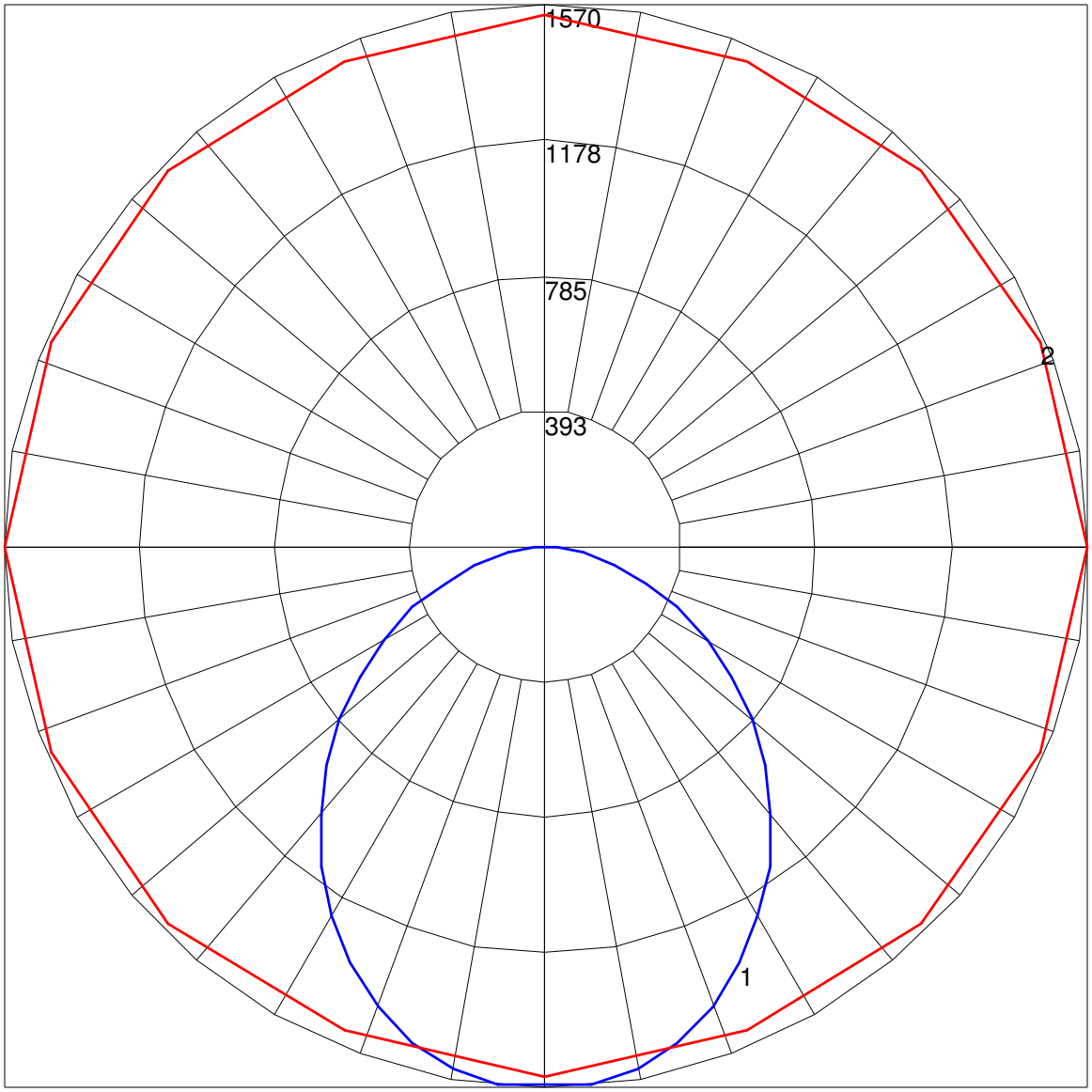
POLAR GRAPH



Maximum Candela = 1570.34 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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