H.E. WILLIAMS, INC.

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

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM BALLABS TEST NO. 19235.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 2023-06-27
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2x4' RECESSED LED LUMINAIRE
[MORE] WHITE REFLECTOR w/RIBBED FROSTED ACRYLIC CENTER DIFFUSER
[MORE] 0-10V DRIVER
[LUMCAT] PT-24-L38-840-RA-DIM-UNV
[LAMPCAT] 22 INCH HLM LED ARRAYS
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor, Architectural, Office, Direct
[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3896
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
Total Luminaire Watts	28.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.14
Spacing Criterion (90-270)	1.18
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1671	1763	1853
55	1498	1639	1770
65	1316	1559	1772
75	1019	1564	1936
85	615	2053	2352

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1490.318	1490.318	1490.318	1490.318	1490.318
5	1467.561	1465.538	1465.538	1460.481	1457.953
10	1463.010	1463.010	1465.538	1467.561	1467.561
15	1424.576	1426.599	1429.127	1432.667	1435.196
20	1330.515	1335.572	1341.640	1349.731	1352.260
25	1255.164	1259.716	1271.853	1282.472	1287.529
30	1099.912	1066.030	1204.594	1164.643	1158.574
35	1014.448	1024.056	1046.813	1066.030	1073.616
40	902.687	914.824	940.109	965.394	975.003
45	824.808	835.428	870.321	902.687	914.824
50	716.587	733.275	771.709	805.591	817.222
55	599.768	617.974	656.407	694.841	709.001
60	489.018	508.235	551.726	591.171	605.837
65	388.383	413.668	460.193	506.212	522.901
70	286.230	316.067	371.189	419.737	436.425
75	184.077	220.994	282.690	331.744	349.949
80	101.141	149.184	219.982	268.025	282.690
85	37.422	85.464	124.910	140.586	143.115
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	540.24	N.A.	13.90
0-30	1119.64	N.A.	28.70
0-40	1772.78	N.A.	45.50
0-60	3027.53	N.A.	77.70
0-80	3779.06	N.A.	97.00
0-90	3895.56	N.A.	100.00
10-90	3755.47	N.A.	96.40
20-40	1232.54	N.A.	31.60
20-50	1898.73	N.A.	48.70
40-70	1709.08	N.A.	43.90
60-80	751.53	N.A.	19.30
70-80	297.20	N.A.	7.60
80-90	116.50	N.A.	3.00
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	3895.56	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	140.09
10-20	400.15
20-30	579.40
30-40	653.14
40-50	666.19
50-60	588.56
60-70	454.34
70-80	297.20
80-90	116.50
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	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	85	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	46	40	51	45	40	38
7	65	52	43	37	63	51	42	37	49	42	36	48	41	36	46	40	36	34
8	61	47	39	33	59	46	38	33	45	38	32	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	33	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	13.0	14.7	13.4	15.0	15.3	14.1	15.7	14.4	16.0	16.3
	3H	14.7	16.2	15.1	16.5	16.9	16.2	17.7	16.6	18.1	18.4
	4H	15.3	16.7	15.7	17.0	17.4	17.2	18.6	17.6	19.0	19.4
	6H	15.6	17.0	16.1	17.3	17.7	18.3	19.6	18.7	19.9	20.3
	8H	15.8	17.0	16.2	17.4	17.8	18.7	19.9	19.1	20.3	20.7
	12H	15.8	17.0	16.3	17.4	17.8	19.0	20.2	19.5	20.6	21.0
4H	2H	13.8	15.2	14.2	15.6	16.0	14.6	16.0	15.0	16.4	16.7
	3H	15.7	16.9	16.2	17.3	17.7	17.1	18.3	17.5	18.7	19.0
	4H	16.4	17.5	16.9	17.9	18.4	18.2	19.3	18.7	19.7	20.2
	6H	17.0	17.9	17.4	18.4	18.8	19.5	20.4	19.9	20.9	21.3
	8H	17.1	18.0	17.6	18.5	18.9	20.0	20.9	20.5	21.3	21.8
	12H	17.3	18.1	17.8	18.5	19.0	20.4	21.2	20.9	21.7	22.2
8H	4H	17.0	17.9	17.5	18.4	18.8	18.6	19.5	19.0	19.9	20.4
	6H	17.8	18.5	18.3	19.0	19.5	20.0	20.8	20.5	21.3	21.7
	8H	18.1	18.7	18.6	19.2	19.7	20.7	21.4	21.2	21.9	22.3
	12H	18.3	18.9	18.8	19.4	19.9	21.3	21.8	21.8	22.3	22.9
12H	4H	17.2	18.0	17.7	18.5	18.9	18.6	19.4	19.1	19.9	20.4
	6H	18.0	18.7	18.6	19.2	19.7	20.1	20.8	20.7	21.3	21.8
	8H	18.4	19.0	18.9	19.5	20.1	20.9	21.4	21.4	21.9	22.5

Maximum UGR = 22.9

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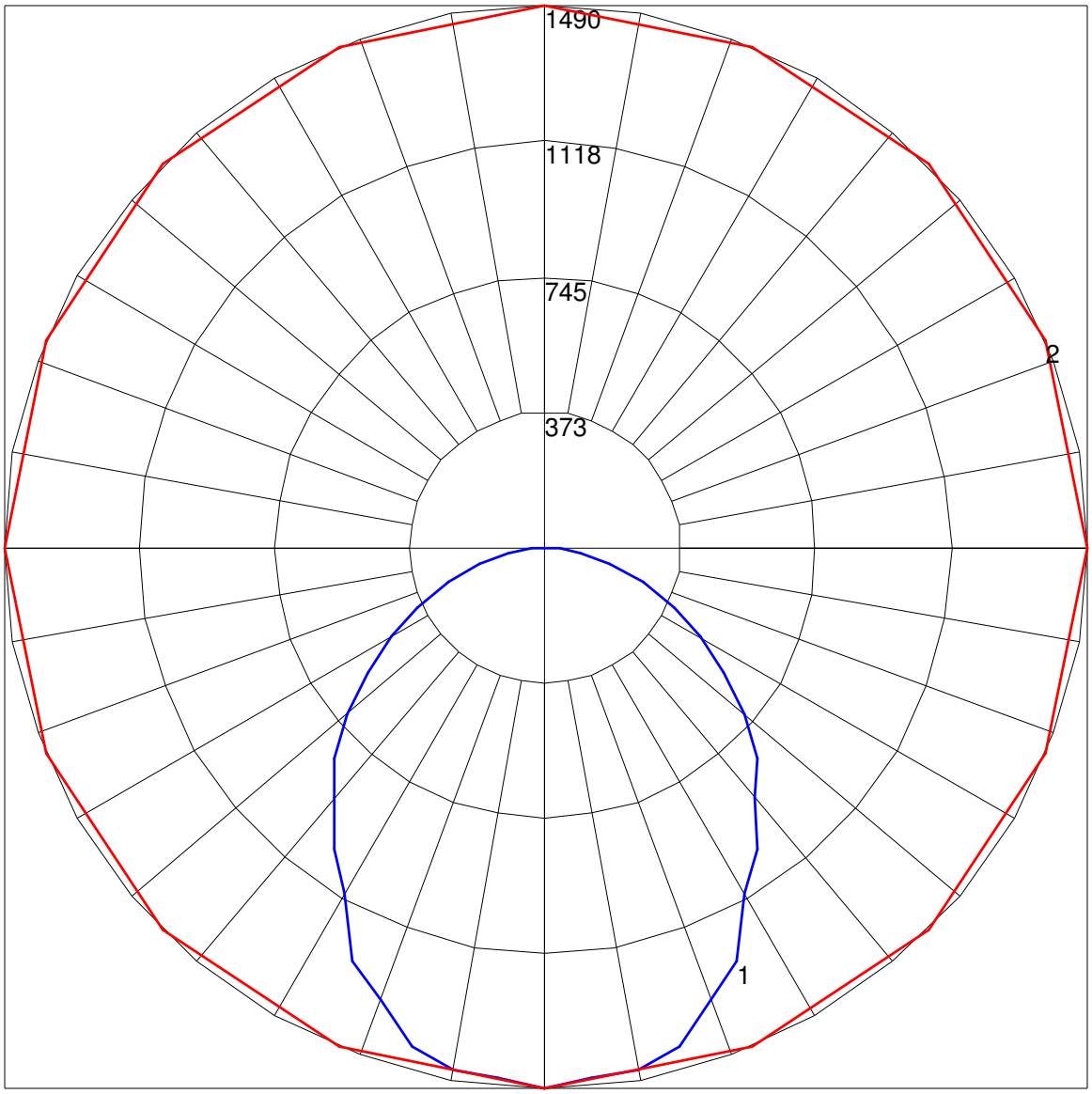
POLAR GRAPH



Maximum Candela = 1490.318 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.)

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