H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L38-830-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-L38-830-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	3744
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	131
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	1606	1694	1781
55	1439	1575	1702
65	1265	1499	1703
75	979	1503	1861
85	591	1973	2260

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1432.442	1432.442	1432.442	1432.442	1432.442
5	1410.569	1408.624	1408.624	1403.764	1401.333
10	1406.194	1406.194	1408.624	1410.569	1410.569
15	1369.253	1371.197	1373.628	1377.030	1379.460
20	1278.844	1283.705	1289.538	1297.315	1299.745
25	1206.420	1210.795	1222.461	1232.668	1237.529
30	1057.197	1024.631	1157.814	1119.414	1113.581
35	975.052	984.287	1006.160	1024.631	1031.922
40	867.631	879.297	903.600	927.903	937.139
45	792.777	802.984	836.523	867.631	879.297
50	688.758	704.798	741.739	774.306	785.486
55	576.476	593.975	630.916	667.857	681.467
60	470.028	488.498	530.300	568.213	582.309
65	373.300	397.603	442.322	486.554	502.594
70	275.114	303.792	356.774	403.436	419.477
75	176.929	212.412	271.712	318.860	336.359
80	97.214	143.390	211.439	257.616	271.712
85	35.969	82.145	120.059	135.127	137.557
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	519.26	N.A.	13.90
0-30	1076.16	N.A.	28.70
0-40	1703.94	N.A.	45.50
0-60	2909.96	N.A.	77.70
0-80	3632.3	N.A.	97.00
0-90	3744.28	N.A.	100.00
10-90	3609.63	N.A.	96.40
20-40	1184.68	N.A.	31.60
20-50	1824.99	N.A.	48.70
40-70	1642.71	N.A.	43.90
60-80	722.35	N.A.	19.30
70-80	285.65	N.A.	7.60
80-90	111.97	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	3744.28	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	134.65
10-20	384.61
20-30	556.90
30-40	627.78
40-50	640.32
50-60	565.70
60-70	436.69
70-80	285.65
80-90	111.97
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	33	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	12.9	14.6	13.3	14.9	15.2	14.0	15.6	14.3	15.9	16.2
	3H	14.6	16.1	15.0	16.4	16.8	16.1	17.6	16.5	18.0	18.3
	4H	15.2	16.6	15.6	16.9	17.3	17.1	18.5	17.5	18.9	19.3
	6H	15.5	16.9	16.0	17.2	17.6	18.2	19.5	18.6	19.8	20.2
	8H	15.7	16.9	16.1	17.3	17.7	18.6	19.8	19.0	20.2	20.6
	12H	15.7	16.9	16.2	17.3	17.7	18.9	20.1	19.4	20.5	20.9
4H	2H	13.7	15.1	14.1	15.5	15.9	14.5	15.9	14.9	16.3	16.6
	3H	15.6	16.8	16.1	17.2	17.6	17.0	18.2	17.4	18.5	18.9
	4H	16.3	17.4	16.8	17.8	18.3	18.1	19.2	18.6	19.6	20.1
	6H	16.9	17.8	17.3	18.3	18.7	19.4	20.3	19.8	20.8	21.2
	8H	17.0	17.9	17.5	18.4	18.8	19.9	20.8	20.4	21.2	21.7
	12H	17.2	18.0	17.7	18.4	18.9	20.3	21.1	20.8	21.6	22.1
8H	4H	16.9	17.8	17.4	18.3	18.7	18.5	19.4	18.9	19.8	20.3
	6H	17.7	18.4	18.2	18.9	19.4	19.9	20.7	20.4	21.2	21.6
	8H	18.0	18.6	18.5	19.1	19.6	20.6	21.3	21.1	21.8	22.2
	12H	18.2	18.8	18.7	19.3	19.8	21.2	21.7	21.7	22.2	22.8
12H	4H	17.1	17.9	17.6	18.4	18.8	18.5	19.3	19.0	19.8	20.3
	6H	17.9	18.6	18.5	19.1	19.6	20.0	20.7	20.6	21.2	21.7
	8H	18.3	18.9	18.8	19.4	20.0	20.8	21.3	21.3	21.8	22.4

Maximum UGR = 22.8

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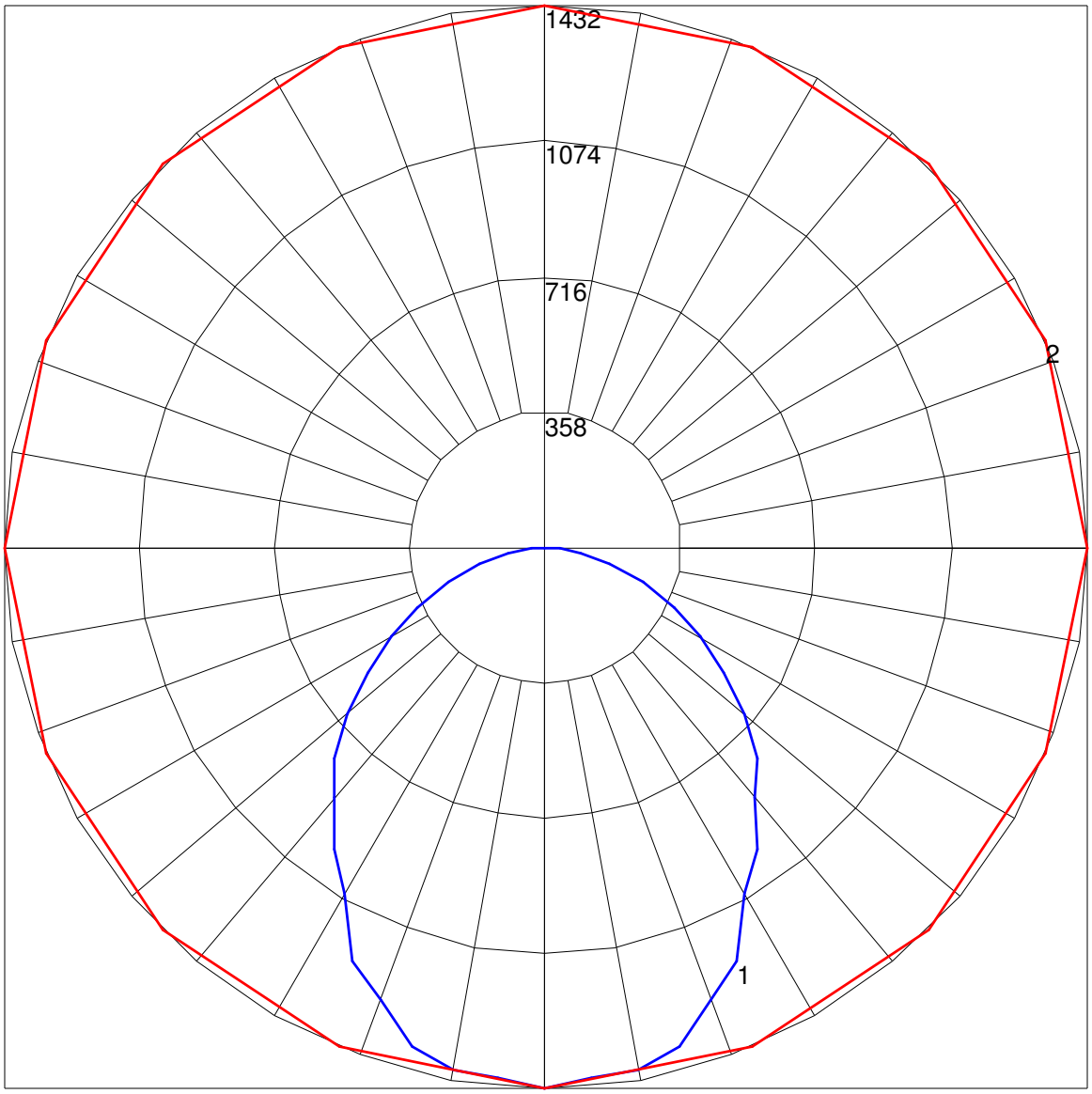
POLAR GRAPH



Maximum Candela = 1432.442 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.)