H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L38-835-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-L38-835-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	3782
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	133
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	1622	1711	1799
55	1454	1591	1719
65	1278	1514	1720
75	989	1519	1880
85	597	1993	2283

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1446.911	1446.911	1446.911	1446.911	1446.911
5	1424.817	1422.853	1422.853	1417.943	1415.488
10	1420.398	1420.398	1422.853	1424.817	1424.817
15	1383.084	1385.048	1387.503	1390.939	1393.394
20	1291.762	1296.672	1302.564	1310.419	1312.874
25	1218.606	1223.025	1234.809	1245.119	1250.029
30	1067.876	1034.981	1169.509	1130.721	1124.830
35	984.901	994.230	1016.324	1034.981	1042.345
40	876.395	888.178	912.727	937.276	946.605
45	800.784	811.095	844.972	876.395	888.178
50	695.715	711.917	749.232	782.127	793.420
55	582.299	599.975	637.289	674.603	688.351
60	474.775	493.432	535.657	573.953	588.191
65	377.071	401.620	446.790	491.469	507.671
70	277.893	306.861	360.378	407.511	423.714
75	178.716	214.557	274.456	322.081	339.756
80	98.196	144.838	213.575	260.218	274.456
85	36.332	82.975	121.271	136.492	138.947
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	524.50	N.A.	13.90
0-30	1087.03	N.A.	28.70
0-40	1721.15	N.A.	45.50
0-60	2939.35	N.A.	77.70
0-80	3668.99	N.A.	97.00
0-90	3782.1	N.A.	100.00
10-90	3646.09	N.A.	96.40
20-40	1196.65	N.A.	31.60
20-50	1843.43	N.A.	48.70
40-70	1659.3	N.A.	43.90
60-80	729.64	N.A.	19.30
70-80	288.54	N.A.	7.60
80-90	113.10	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	3782.1	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	136.01
10-20	388.49
20-30	562.53
30-40	634.12
40-50	646.78
50-60	571.42
60-70	441.10
70-80	288.54
80-90	113.10
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	14.6	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	18.6	19.0
	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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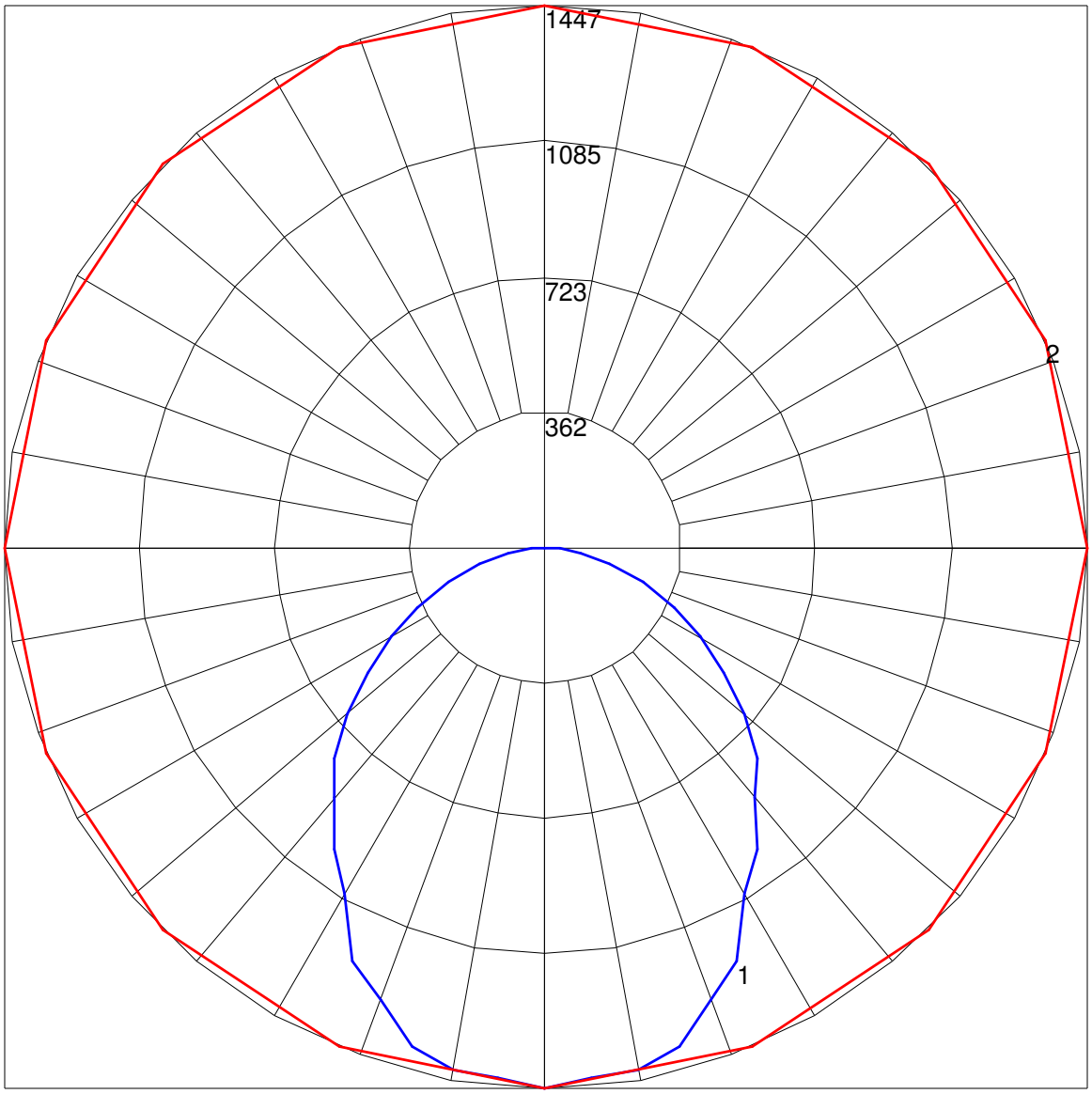
POLAR GRAPH



Maximum Candela = 1446.911 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.)