H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L49-927-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-L49-927-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	4164
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	113
Total Luminaire Watts	36.7
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	1786	1884	1981
55	1601	1752	1892
65	1407	1667	1894
75	1089	1672	2070
85	657	2194	2514

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1593.040	1593.040	1593.040	1593.040	1593.040
5	1568.715	1566.553	1566.553	1561.147	1558.444
10	1563.850	1563.850	1566.553	1568.715	1568.715
15	1522.767	1524.929	1527.632	1531.416	1534.119
20	1422.222	1427.628	1434.115	1442.764	1445.467
25	1341.678	1346.543	1359.517	1370.869	1376.274
30	1175.725	1139.508	1287.622	1244.918	1238.431
35	1084.370	1094.641	1118.966	1139.508	1147.616
40	964.906	977.879	1004.907	1031.936	1042.206
45	881.659	893.011	930.310	964.906	977.879
50	765.978	783.817	824.900	861.118	873.550
55	641.108	660.568	701.651	742.734	757.870
60	522.725	543.266	589.755	631.919	647.595
65	415.153	442.181	491.913	541.104	558.943
70	305.959	337.852	396.774	448.668	466.506
75	196.765	236.226	302.175	354.610	374.070
80	108.113	159.466	235.145	286.499	302.175
85	40.002	91.355	133.519	150.277	152.979
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	577.47	N.A.	13.90
0-30	1196.81	N.A.	28.70
0-40	1894.97	N.A.	45.50
0-60	3236.21	N.A.	77.70
0-80	4039.54	N.A.	97.00
0-90	4164.07	N.A.	100.00
10-90	4014.32	N.A.	96.40
20-40	1317.5	N.A.	31.60
20-50	2029.6	N.A.	48.70
40-70	1826.88	N.A.	43.90
60-80	803.33	N.A.	19.30
70-80	317.68	N.A.	7.60
80-90	124.53	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	4164.07	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	149.75
10-20	427.73
20-30	619.34
30-40	698.16
40-50	712.11
50-60	629.13
60-70	485.65
70-80	317.68
80-90	124.53
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	13.4	15.0	13.7	15.3	15.6	14.4	16.0	14.7	16.3	16.6
	3H	15.0	16.5	15.4	16.8	17.2	16.5	18.0	16.9	18.4	18.7
	4H	15.6	17.0	16.0	17.3	17.7	17.5	18.9	17.9	19.3	19.7
	6H	15.9	17.3	16.4	17.6	18.0	18.6	19.9	19.0	20.2	20.6
	8H	16.1	17.3	16.5	17.7	18.1	19.0	20.2	19.4	20.6	21.0
	12H	16.1	17.3	16.6	17.7	18.1	19.3	20.5	19.8	20.9	21.3
4H	2H	14.1	15.5	14.5	15.9	16.3	14.9	16.3	15.3	16.7	17.0
	3H	16.0	17.2	16.5	17.6	18.0	17.4	18.6	17.8	19.0	19.4
	4H	16.7	17.8	17.2	18.2	18.7	18.5	19.6	19.0	20.0	20.5
	6H	17.3	18.2	17.7	18.7	19.1	19.8	20.7	20.2	21.2	21.6
	8H	17.4	18.3	17.9	18.8	19.2	20.3	21.2	20.8	21.6	22.1
	12H	17.6	18.4	18.1	18.8	19.3	20.7	21.5	21.2	22.0	22.5
8H	4H	17.3	18.2	17.8	18.7	19.1	18.9	19.8	19.3	20.2	20.7
	6H	18.1	18.8	18.6	19.3	19.8	20.3	21.1	20.8	21.6	22.0
	8H	18.4	19.0	18.9	19.5	20.0	21.0	21.7	21.5	22.2	22.6
	12H	18.6	19.2	19.1	19.7	20.2	21.6	22.1	22.1	22.6	23.2
12H	4H	17.5	18.3	18.0	18.8	19.2	18.9	19.7	19.4	20.2	20.7
	6H	18.3	19.0	18.9	19.5	20.0	20.4	21.1	21.0	21.6	22.1
	8H	18.7	19.3	19.2	19.8	20.4	21.2	21.7	21.7	22.2	22.8

Maximum UGR = 23.2

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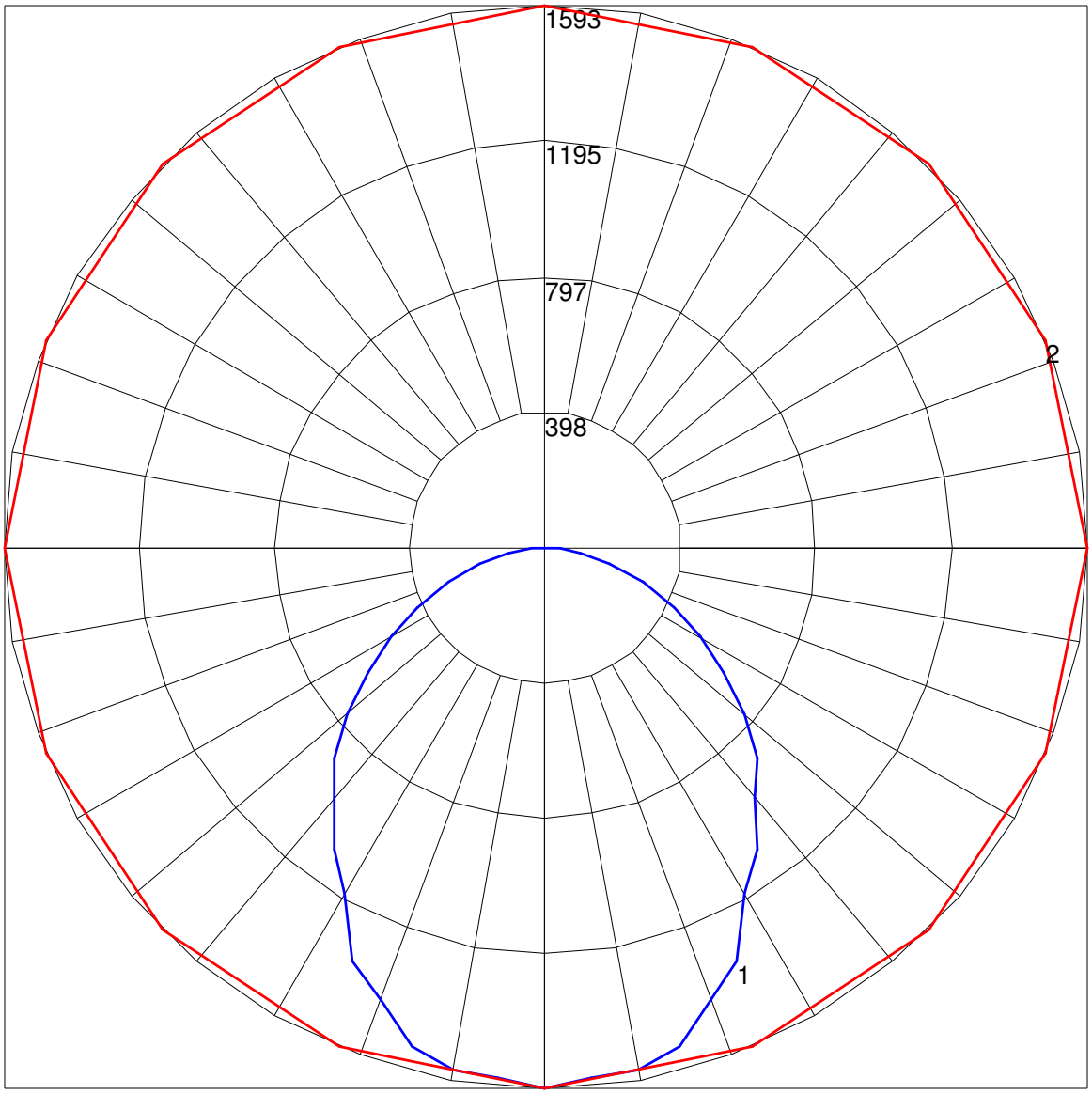
POLAR GRAPH



Maximum Candela = 1593.04 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.)