H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-L110-930-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-L110-930-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	9202
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	110
Total Luminaire Watts	83.7
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	3946	4164	4377
55	3537	3871	4182
65	3109	3684	4186
75	2406	3695	4574
85	1452	4848	5555

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3520.248	3520.248	3520.248	3520.248	3520.248
5	3466.494	3461.716	3461.716	3449.771	3443.798
10	3455.744	3455.744	3461.716	3466.494	3466.494
15	3364.960	3369.738	3375.711	3384.072	3390.045
20	3142.780	3154.725	3169.059	3188.171	3194.144
25	2964.796	2975.547	3004.215	3029.300	3041.245
30	2598.079	2518.046	2845.344	2750.977	2736.643
35	2396.205	2418.901	2472.654	2518.046	2535.964
40	2132.216	2160.885	2220.611	2280.337	2303.033
45	1948.261	1973.345	2055.767	2132.216	2160.885
50	1692.633	1732.053	1822.836	1902.869	1930.343
55	1416.700	1459.702	1550.486	1641.269	1674.716
60	1155.100	1200.492	1303.220	1396.393	1431.034
65	917.391	977.117	1087.012	1195.714	1235.133
70	676.098	746.574	876.777	991.451	1030.870
75	434.805	522.005	667.736	783.604	826.607
80	238.904	352.383	519.616	633.095	667.736
85	88.394	201.874	295.046	332.076	338.049
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1276.08	N.A.	13.90
0-30	2644.67	N.A.	28.70
0-40	4187.45	N.A.	45.50
0-60	7151.26	N.A.	77.70
0-80	8926.44	N.A.	97.00
0-90	9201.61	N.A.	100.00
10-90	8870.71	N.A.	96.40
20-40	2911.37	N.A.	31.60
20-50	4484.95	N.A.	48.70
40-70	4036.99	N.A.	43.90
60-80	1775.18	N.A.	19.30
70-80	702.00	N.A.	7.60
80-90	275.18	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	9201.61	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	330.90
10-20	945.18
20-30	1368.59
30-40	1542.78
40-50	1573.59
50-60	1390.22
60-70	1073.18
70-80	702.00
80-90	275.18
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	16.1	17.7	16.4	18.0	18.3	17.1	18.7	17.4	19.0	19.3
	3H	17.7	19.2	18.1	19.5	19.9	19.2	20.7	19.6	21.1	21.4
	4H	18.3	19.7	18.7	20.0	20.4	20.2	21.6	20.6	22.0	22.4
	6H	18.6	20.0	19.1	20.3	20.7	21.3	22.6	21.7	22.9	23.3
	8H	18.8	20.0	19.2	20.4	20.8	21.7	22.9	22.1	23.3	23.7
	12H	18.8	20.0	19.3	20.4	20.8	22.0	23.2	22.5	23.6	24.0
4H	2H	16.8	18.2	17.2	18.6	19.0	17.6	19.0	18.0	19.4	19.7
	3H	18.7	19.9	19.2	20.3	20.7	20.1	21.3	20.5	21.7	22.1
	4H	19.4	20.5	19.9	20.9	21.4	21.2	22.3	21.7	22.7	23.2
	6H	20.0	20.9	20.4	21.4	21.8	22.5	23.4	22.9	23.9	24.3
	8H	20.1	21.0	20.6	21.5	21.9	23.0	23.9	23.5	24.3	24.8
	12H	20.3	21.1	20.8	21.5	22.0	23.4	24.2	23.9	24.7	25.2
8H	4H	20.0	20.9	20.5	21.4	21.8	21.6	22.5	22.0	22.9	23.4
	6H	20.8	21.5	21.3	22.0	22.5	23.0	23.8	23.5	24.3	24.7
	8H	21.1	21.7	21.6	22.2	22.7	23.7	24.4	24.2	24.9	25.3
	12H	21.3	21.9	21.8	22.4	22.9	24.3	24.8	24.8	25.3	25.9
12H	4H	20.2	21.0	20.7	21.5	21.9	21.6	22.4	22.1	22.9	23.4
	6H	21.0	21.7	21.6	22.2	22.7	23.1	23.8	23.7	24.3	24.8
	8H	21.4	22.0	21.9	22.5	23.1	23.9	24.4	24.4	24.9	25.5

Maximum UGR = 25.9

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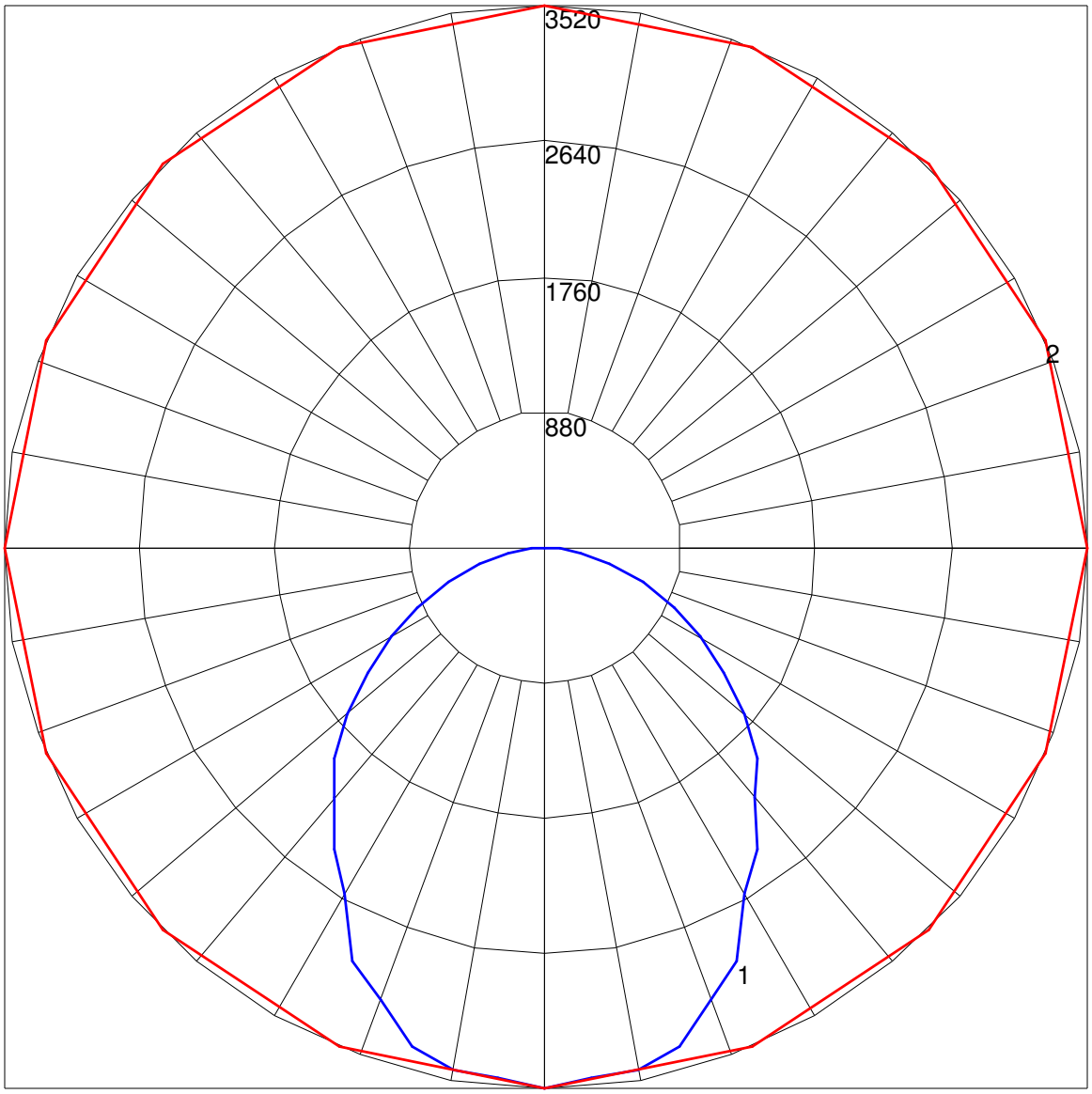
POLAR GRAPH



Maximum Candela = 3520.248 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.)