H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : PT-24-P31-840-RA-POE PR_.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] 24 JAN 2022
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 2 X 4 LED RECESSED LUMINAIRE
[MORE] WHITE REFLECTOR w/RIBBED FROSTED ACRYLIC CENTER DIFFUSER
[LUMCAT] PT-24-P31-840-RA-POE PR
[LAMPCAT] HLM 80 CRI LINEAR LED BOARD
[_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	3238
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	25
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	1389	1465	1540
55	1245	1362	1472
65	1094	1296	1473
75	847	1300	1610
85	511	1706	1955

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	1238.788	1238.788	1238.788	1238.788	1238.788
5	1219.872	1218.191	1218.191	1213.987	1211.886
10	1216.089	1216.089	1218.191	1219.872	1219.872
15	1184.142	1185.823	1187.925	1190.868	1192.969
20	1105.956	1110.159	1115.204	1121.929	1124.031
25	1043.323	1047.106	1057.195	1066.022	1070.226
30	914.274	886.110	1001.287	968.079	963.035
35	843.234	851.220	870.136	886.110	892.415
40	750.335	760.423	781.441	802.459	810.446
45	685.600	694.428	723.432	750.335	760.423
50	595.644	609.516	641.463	669.627	679.295
55	498.542	513.675	545.622	577.569	589.339
60	406.484	422.457	458.608	491.396	503.586
65	322.833	343.851	382.524	420.776	434.648
70	237.921	262.722	308.541	348.895	362.767
75	153.009	183.695	234.979	275.753	290.886
80	84.071	124.005	182.855	222.789	234.979
85	31.106	71.040	103.828	116.859	118.961
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	449.06	N.A.	13.90
0-30	930.67	N.A.	28.70
0-40	1473.58	N.A.	45.50
0-60	2516.55	N.A.	77.70
0-80	3141.25	N.A.	97.00
0-90	3238.08	N.A.	100.00
10-90	3121.64	N.A.	96.40
20-40	1024.52	N.A.	31.60
20-50	1578.27	N.A.	48.70
40-70	1420.63	N.A.	43.90
60-80	624.69	N.A.	19.30
70-80	247.04	N.A.	7.60
80-90	96.84	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	3238.08	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	116.45
10-20	332.61
20-30	481.61
30-40	542.91
40-50	553.75
50-60	489.22
60-70	377.65
70-80	247.04
80-90	96.84
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	12.5	14.1	12.8	14.4	14.7	13.5	15.1	13.8	15.4	15.7
	3H	14.1	15.6	14.5	15.9	16.3	15.6	17.1	16.0	17.5	17.8
	4H	14.7	16.1	15.1	16.4	16.8	16.6	18.0	17.0	18.4	18.8
	6H	15.0	16.4	15.5	16.7	17.1	17.7	19.0	18.1	19.3	19.7
	8H	15.2	16.4	15.6	16.8	17.2	18.1	19.3	18.5	19.7	20.1
	12H	15.2	16.4	15.7	16.8	17.2	18.4	19.6	18.9	20.0	20.4
4H	2H	13.2	14.6	13.6	15.0	15.4	14.0	15.4	14.4	15.8	16.1
	3H	15.1	16.3	15.6	16.7	17.1	16.5	17.7	16.9	18.1	18.5
	4H	15.8	16.9	16.3	17.3	17.8	17.6	18.7	18.1	19.1	19.6
	6H	16.4	17.3	16.8	17.8	18.2	18.9	19.8	19.3	20.3	20.7
	8H	16.5	17.4	17.0	17.9	18.3	19.4	20.3	19.9	20.7	21.2
	12H	16.7	17.5	17.2	17.9	18.4	19.8	20.6	20.3	21.1	21.6
8H	4H	16.4	17.3	16.9	17.8	18.2	18.0	18.9	18.4	19.3	19.8
	6H	17.2	17.9	17.7	18.4	18.9	19.4	20.2	19.9	20.7	21.1
	8H	17.5	18.1	18.0	18.6	19.1	20.1	20.8	20.6	21.3	21.7
	12H	17.7	18.3	18.2	18.8	19.3	20.7	21.2	21.2	21.7	22.3
12H	4H	16.6	17.4	17.1	17.9	18.3	18.0	18.8	18.5	19.3	19.8
	6H	17.4	18.1	18.0	18.6	19.1	19.5	20.2	20.1	20.7	21.2
	8H	17.8	18.4	18.3	18.9	19.5	20.3	20.8	20.8	21.3	21.9

Maximum UGR = 22.3

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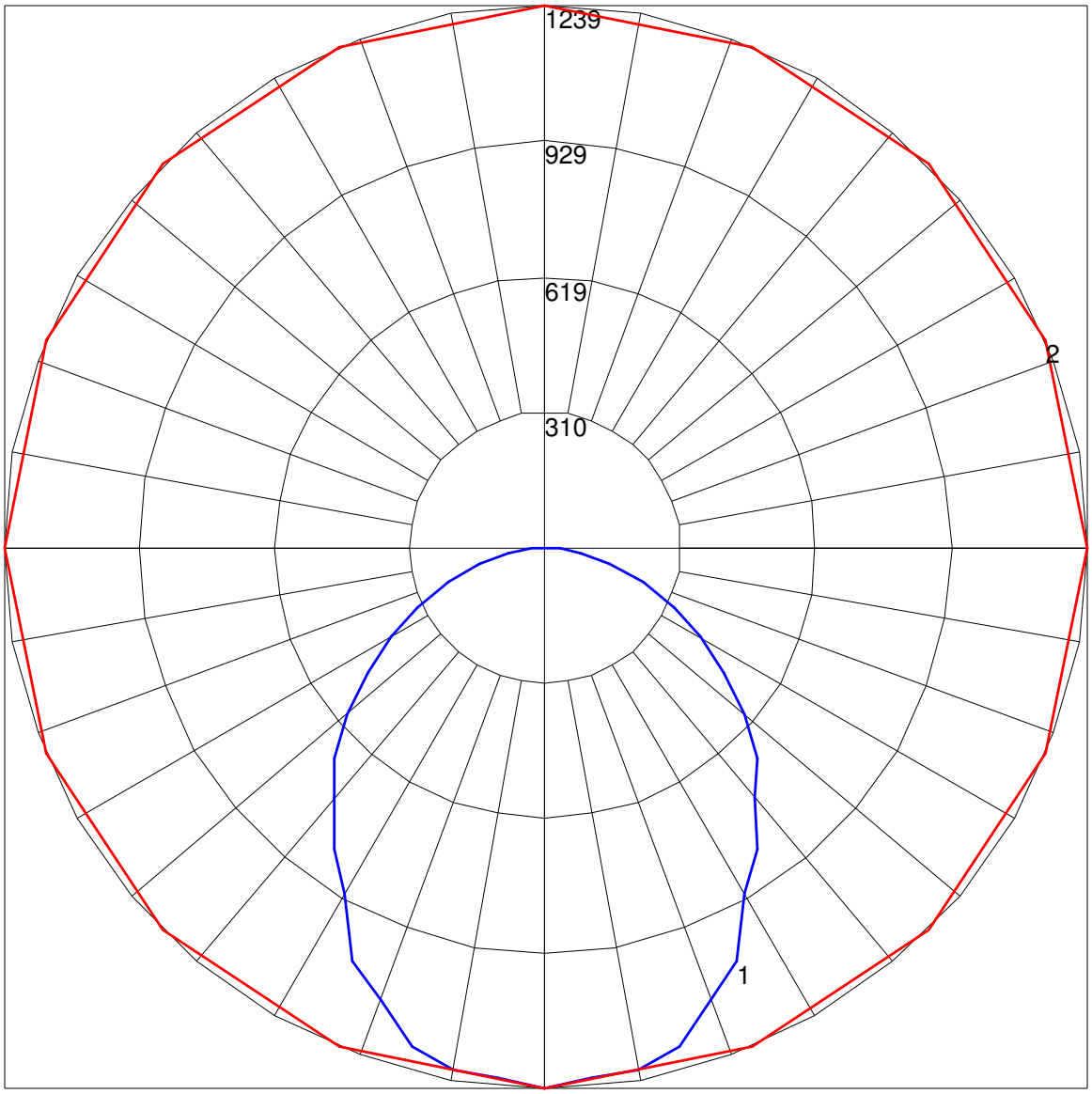
POLAR GRAPH



Maximum Candela = 1238.788 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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