



IES INDOOR REPORT

PHOTOMETRIC FILENAME : A13P33F-4-L16-835-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20816.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 3-MAR-2020

[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4-56 LED 22" ARRAYS 4' SUSPENDED LUMINAIRE w/WHITE REFL

[MORE] FROST INNER LENS & WHITE PERFORATED BTM w/FROST OVERLAY

[LUMCAT] A13P33F-4-L16/835-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6468
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
Total Luminaire Watts	52.6
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.79 ft
Luminous Width (90-270)	0.72 ft
Luminous Height	0.12 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	538	515	536
55	422	436	480
65	250	349	413
75	140	269	376
85	95	248	401

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	183.623	183.623	183.623	183.623	183.623
5	187.627	183.051	181.907	181.335	180.191
10	183.623	180.191	179.619	179.619	177.903
15	177.331	173.327	173.327	172.755	172.755
20	168.750	165.890	166.462	167.606	167.034
25	158.454	156.166	157.310	159.026	160.742
30	146.441	143.009	146.441	147.585	149.873
35	132.140	129.852	133.284	136.716	138.432
40	116.695	116.123	119.555	124.132	126.420
45	99.534	100.678	105.254	110.403	112.119
50	82.945	84.089	90.382	96.674	98.962
55	64.068	67.500	76.081	82.945	86.377
60	45.763	50.339	60.064	68.644	72.076
65	28.602	35.466	48.623	56.059	60.064
70	17.733	23.453	35.466	46.335	49.767
75	10.297	14.301	26.886	36.610	40.042
80	5.720	10.297	19.449	29.174	32.034
85	2.860	9.725	14.301	21.737	25.742
90	6.292	8.008	12.013	17.161	20.021
95	70.360	515.976	282.585	85.805	77.225
100	147.013	654.408	1067.417	1050.828	938.709
105	229.386	724.768	1164.091	1376.888	1433.520
110	315.191	799.705	1216.146	1454.685	1504.452
115	398.708	837.459	1241.316	1479.283	1548.499
120	471.929	862.629	1275.066	1482.143	1549.071
125	550.870	881.506	1285.363	1480.999	1541.634
130	619.514	890.086	1268.202	1475.278	1537.630
135	672.713	892.375	1239.028	1438.096	1501.020
140	726.484	892.375	1199.557	1384.325	1441.528
145	767.099	887.798	1153.795	1317.397	1374.028
150	806.569	886.082	1090.871	1241.888	1287.079
155	839.747	889.514	1034.239	1155.511	1192.693
160	871.209	895.235	977.608	1061.697	1090.299
165	895.807	902.099	938.137	976.464	997.057
170	912.968	909.536	921.548	929.557	929.557
175	920.976	912.968	912.968	908.964	903.243
180	909.536	909.536	909.536	909.536	909.536

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	66.40	N.A.	1.00
0-30	138.99	N.A.	2.10
0-40	222.64	N.A.	3.40
0-60	371.35	N.A.	5.70
0-80	445.41	N.A.	6.90
0-90	462.33	N.A.	7.10
10-90	444.98	N.A.	6.90
20-40	156.24	N.A.	2.40
20-50	237.68	N.A.	3.70
40-70	194.87	N.A.	3.00
60-80	74.06	N.A.	1.10
70-80	27.90	N.A.	0.40
80-90	16.92	N.A.	0.30
90-110	1409.18	N.A.	21.80
90-120	2530.15	N.A.	39.10
90-130	3580.29	N.A.	55.40
90-150	5175.26	N.A.	80.00
90-180	6005.77	N.A.	92.90
110-180	4596.58	N.A.	71.10
0-180	6468.1	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	17.35
10-20	49.05
20-30	72.60
30-40	83.64
40-50	81.44
50-60	67.27
60-70	46.15
70-80	27.90
80-90	16.92
90-100	359.35
100-110	1049.83
110-120	1120.97
120-130	1050.14
130-140	899.89
140-150	695.08
150-160	474.57
160-170	268.61
170-180	87.32

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	
0	55	55	55	55	48	48	48	48	34	34	34	21	21	21	10	10	10	4
1	50	48	46	44	44	42	40	38	30	29	28	19	18	18	8	8	8	3
2	46	42	39	36	40	36	34	32	26	24	23	16	15	15	7	7	7	3
3	42	37	33	30	36	32	29	26	23	21	19	14	13	12	7	6	6	2
4	38	32	28	25	33	28	25	22	20	18	16	13	11	10	6	5	5	2
5	35	29	24	21	30	25	21	19	18	16	14	11	10	9	5	5	4	2
6	32	26	21	18	28	22	19	16	16	14	12	10	9	8	5	4	4	2
7	29	23	19	16	25	20	17	14	14	12	10	9	8	7	4	4	3	1
8	27	21	17	14	23	18	15	12	13	11	9	8	7	6	4	3	3	1
9	25	19	15	12	22	16	13	11	12	10	8	8	6	5	4	3	3	1
10	23	17	13	11	20	15	12	9	11	9	7	7	6	5	3	3	2	1

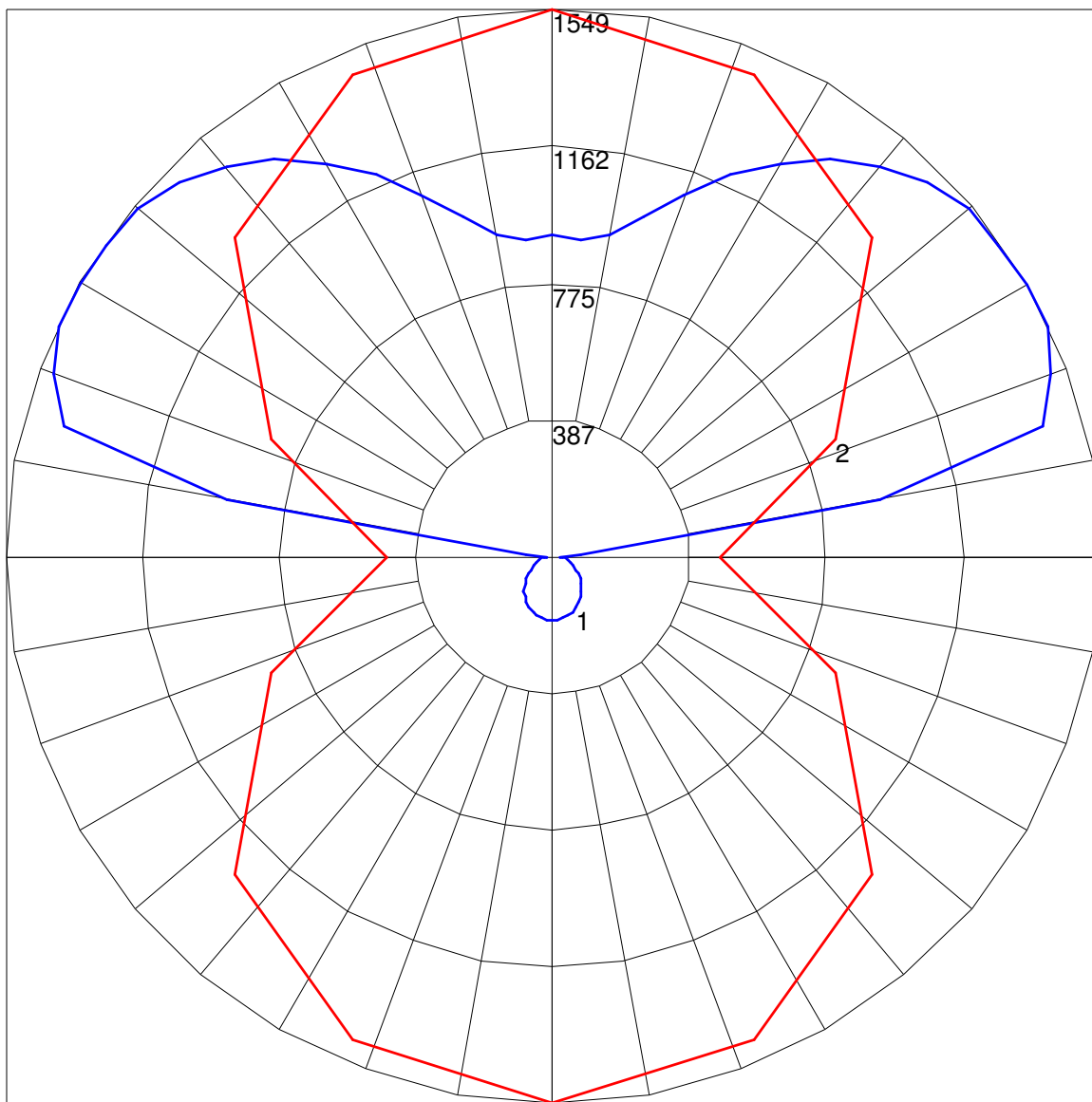
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UGR TABLE - CORRECTED

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	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	3H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	4H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	6H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	8H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	12H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
4H	2H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	3H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	4H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	6H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	8H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.7
	12H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9.2
8H	4H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	6H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	8H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9.0
	12H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9.8
12H	4H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	6H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
	8H	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	9.0

Maximum UGR = 9.8

POLAR GRAPH



Maximum Candela = 1549.071 Located At Horizontal Angle = 90, Vertical Angle = 120
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (120) (Through Max. Cd.)