IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L94-840-DRV-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN from BALLABS TEST NO. 20990.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 10-FEB-2020
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 72 LED 23.75", 68 LED 22.375"ARRAYS 4' 76R SURFACE LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[LUMCAT] 76R-4-L94/840-DRV-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9418
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	137
Total Luminaire Watts	68.6
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.28
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.98 ft
Luminous Width (90-270)	0.38 ft
Luminous Height	0.15 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	16478	15103	15498
55	14051	13088	13780
65	11303	10842	11931
75	8767	9192	10309
85	4114	8286	9598

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	3041.260	3041.260	3041.260	3041.260	3041.260
5	3066.759	3026.549	3018.703	3018.703	3009.876
10	3010.857	2976.531	2978.493	2986.338	2976.531
15	2909.841	2883.361	2904.937	2928.475	2925.533
20	2779.403	2768.615	2803.922	2847.074	2849.036
25	2598.948	2610.717	2674.465	2731.347	2746.058
30	2408.685	2429.281	2520.489	2594.044	2622.486
35	2171.348	2219.404	2340.034	2436.146	2469.491
40	1944.798	1996.777	2141.926	2276.286	2307.670
45	1676.076	1751.593	1928.125	2073.274	2112.503
50	1425.008	1518.178	1711.383	1871.243	1914.395
55	1176.882	1268.091	1489.737	1655.481	1706.479
60	941.506	1044.483	1272.013	1425.008	1482.872
65	714.956	823.818	1046.444	1241.611	1283.782
70	527.635	623.748	857.162	1046.444	1096.462
75	357.968	464.868	701.226	870.893	908.161
80	199.089	329.527	560.980	714.956	767.916
85	70.613	222.627	445.254	588.441	632.574
90	0.000	147.110	347.180	487.425	515.867
95	0.000	94.151	273.625	399.159	442.312
100	0.000	62.767	209.877	330.508	364.833
105	0.000	42.172	165.744	266.760	305.009
110	0.000	19.615	131.419	218.704	254.991
115	0.000	12.750	104.939	184.378	209.877
120	0.000	0.000	83.362	151.033	177.513
125	0.000	0.000	64.729	120.630	141.226
130	0.000	0.000	50.998	95.131	112.785
135	0.000	0.000	41.191	73.555	90.228
140	0.000	0.000	21.576	55.902	68.651
145	0.000	0.000	7.846	43.152	50.017
150	0.000	0.000	0.000	37.268	42.172
155	0.000	0.000	0.000	35.306	37.268
160	0.000	0.000	0.000	20.595	34.326
165	0.000	0.000	0.000	6.865	11.769
170	0.000	0.000	0.000	0.000	0.000
175	0.000	0.000	0.000	0.000	0.000
180	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1108.2	N.A.	11.80
0-30	2339.46	N.A.	24.80
0-40	3797.58	N.A.	40.30
0-60	6586.17	N.A.	69.90
0-80	8319.78	N.A.	88.30
0-90	8765.83	N.A.	93.10
10-90	8478.33	N.A.	90.00
20-40	2689.39	N.A.	28.60
20-50	4167.08	N.A.	44.20
40-70	3811.15	N.A.	40.50
60-80	1733.6	N.A.	18.40
70-80	711.04	N.A.	7.60
80-90	446.05	N.A.	4.70
90-110	440.96	N.A.	4.70
90-120	542.57	N.A.	5.80
90-130	600.96	N.A.	6.40
90-150	644.62	N.A.	6.80
90-180	651.81	N.A.	6.90
110-180	210.85	N.A.	2.20
0-180	9417.64	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	287.50
10-20	820.70
20-30	1231.26
30-40	1458.13
40-50	1477.69
50-60	1310.9
60-70	1022.56
70-80	711.04
80-90	446.05
90-100	272.98
100-110	167.98
110-120	101.62
120-130	58.39
130-140	30.88
140-150	12.78
150-160	5.96
160-170	1.23
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	360	360	360	360	350	350	350	350	329	329	329	311	311	311	294	294	294	286
1	325	309	295	282	315	300	287	275	283	272	262	267	258	250	253	246	239	231
2	295	268	246	228	285	261	240	223	246	229	215	233	219	207	220	209	199	191
3	269	235	209	189	259	229	205	186	216	196	180	205	188	174	195	180	168	160
4	246	208	181	160	237	203	177	157	192	170	153	183	164	149	174	158	144	137
5	226	186	158	137	218	181	155	136	172	150	132	164	144	129	156	139	126	118
6	209	168	140	120	202	163	137	119	156	133	116	149	128	113	142	124	110	104
7	194	152	125	106	187	148	123	105	142	119	103	135	115	100	130	112	98	92
8	180	139	112	94	174	136	111	93	130	107	92	124	104	90	119	101	88	82
9	168	127	102	85	163	125	101	84	119	98	83	115	95	81	110	92	80	74
10	158	117	93	77	153	115	92	76	111	89	75	106	87	74	102	85	72	67

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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	15.6	17.1	16.1	17.6	18.1	17.8	19.3	18.3	19.7	20.2
	3H	17.1	18.4	17.6	18.9	19.4	20.0	21.4	20.5	21.9	22.4
	4H	17.6	18.9	18.1	19.4	19.9	21.1	22.4	21.6	22.9	23.4
	6H	17.9	19.2	18.5	19.7	20.2	22.2	23.4	22.7	23.9	24.4
	8H	18.1	19.2	18.6	19.7	20.3	22.8	23.9	23.3	24.4	25.0
	12H	18.1	19.2	18.6	19.7	20.3	23.4	24.5	23.9	25.0	25.6
4H	2H	16.3	17.6	16.8	18.1	18.7	18.1	19.4	18.6	19.9	20.4
	3H	18.0	19.1	18.5	19.6	20.2	20.6	21.7	21.1	22.2	22.8
	4H	18.6	19.7	19.2	20.2	20.8	21.8	22.8	22.3	23.4	24.0
	6H	19.1	20.0	19.7	20.6	21.2	23.1	24.0	23.7	24.6	25.2
	8H	19.3	20.1	19.8	20.7	21.3	23.8	24.6	24.3	25.2	25.8
	12H	19.4	20.1	20.0	20.7	21.4	24.5	25.3	25.1	25.9	26.5
8H	4H	19.2	20.0	19.7	20.6	21.2	22.0	22.8	22.5	23.4	24.0
	6H	19.8	20.5	20.4	21.1	21.8	23.4	24.1	24.0	24.7	25.4
	8H	20.1	20.7	20.7	21.3	22.0	24.2	24.9	24.8	25.5	26.1
	12H	20.3	20.8	20.9	21.4	22.2	25.2	25.7	25.8	26.3	27.0
12H	4H	19.3	20.0	19.9	20.6	21.3	22.0	22.7	22.6	23.3	24.0
	6H	20.0	20.7	20.7	21.3	22.0	23.5	24.1	24.1	24.7	25.4
	8H	20.4	20.9	21.0	21.6	22.3	24.3	24.9	24.9	25.5	26.2

Maximum UGR = 27.0

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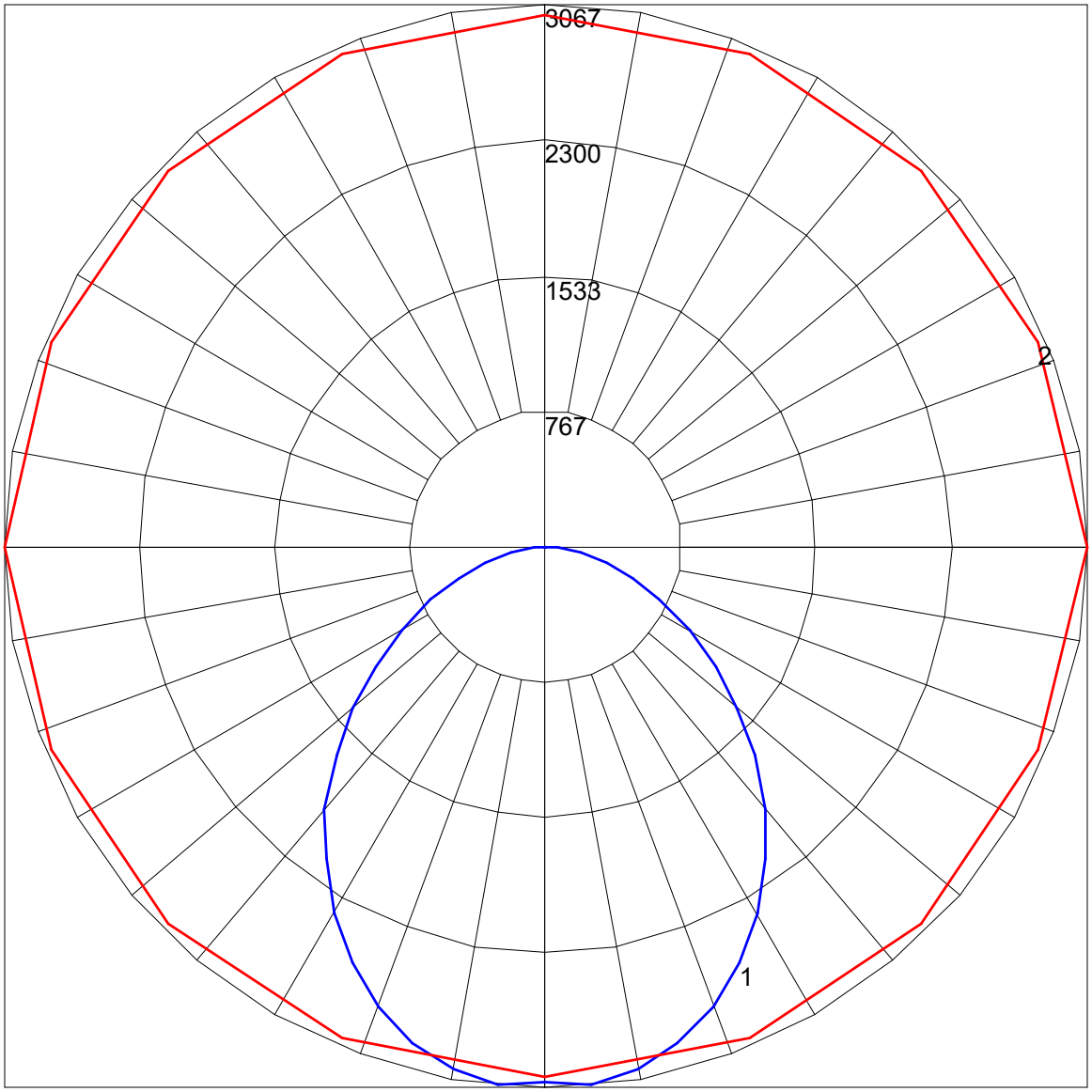
POLAR GRAPH



Maximum Candela = 3066.759 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)