IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L30-840-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-L30/840-DRV-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3067
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	151
Total Luminaire Watts	20.3
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	5366	4918	5047
55	4576	4262	4488
65	3681	3531	3885
75	2855	2993	3357
85	1340	2699	3126

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	990.395	990.395	990.395	990.395	990.395
5	998.699	985.605	983.049	983.049	980.175
10	980.494	969.316	969.955	972.510	969.316
15	947.598	938.975	946.001	953.667	952.708
20	905.121	901.608	913.105	927.158	927.797
25	846.355	850.188	870.947	889.471	894.262
30	784.396	791.103	820.805	844.758	854.020
35	707.106	722.755	762.039	793.338	804.197
40	633.329	650.256	697.524	741.279	751.499
45	545.819	570.411	627.900	675.168	687.943
50	464.058	494.399	557.317	609.376	623.428
55	383.255	412.957	485.137	539.112	555.720
60	306.604	340.139	414.235	464.058	482.902
65	232.828	268.279	340.778	404.334	418.068
70	171.826	203.125	279.138	340.778	357.066
75	116.573	151.386	228.356	283.609	295.745
80	64.834	107.311	182.685	232.828	250.074
85	22.995	72.499	144.998	191.628	206.000
90	0.000	47.907	113.060	158.732	167.994
95	0.000	30.660	89.107	129.987	144.040
100	0.000	20.440	68.347	107.631	118.809
105	0.000	13.733	53.975	86.871	99.327
110	0.000	6.388	42.797	71.222	83.039
115	0.000	4.152	34.174	60.043	68.347
120	0.000	0.000	27.147	49.184	57.808
125	0.000	0.000	21.079	39.284	45.991
130	0.000	0.000	16.608	30.980	36.729
135	0.000	0.000	13.414	23.953	29.383
140	0.000	0.000	7.026	18.205	22.357
145	0.000	0.000	2.555	14.053	16.288
150	0.000	0.000	0.000	12.136	13.733
155	0.000	0.000	0.000	11.498	12.136
160	0.000	0.000	0.000	6.707	11.178
165	0.000	0.000	0.000	2.236	3.833
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	360.89	N.A.	11.80
0-30	761.85	N.A.	24.80
0-40	1236.69	N.A.	40.30
0-60	2144.81	N.A.	69.90
0-80	2709.36	N.A.	88.30
0-90	2854.62	N.A.	93.10
10-90	2760.99	N.A.	90.00
20-40	875.81	N.A.	28.60
20-50	1357.02	N.A.	44.20
40-70	1241.11	N.A.	40.50
60-80	564.55	N.A.	18.40
70-80	231.55	N.A.	7.60
80-90	145.26	N.A.	4.70
90-110	143.60	N.A.	4.70
90-120	176.69	N.A.	5.80
90-130	195.71	N.A.	6.40
90-150	209.92	N.A.	6.80
90-180	212.26	N.A.	6.90
110-180	68.66	N.A.	2.20
0-180	3066.88	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	93.63
10-20	267.26
20-30	400.96
30-40	474.84
40-50	481.21
50-60	426.90
60-70	333.00
70-80	231.55
80-90	145.26
90-100	88.90
100-110	54.70
110-120	33.09
120-130	19.01
130-140	10.06
140-150	4.16
150-160	1.94
160-170	0.40
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	112	112	112	112	109	109	109	109	103	103	103	97	97	97	92	92	92	89
1	101	96	92	88	98	93	89	86	88	85	82	83	80	78	79	77	75	72
2	92	84	77	71	89	81	75	70	77	71	67	72	68	64	69	65	62	59
3	84	73	65	59	81	71	64	58	67	61	56	64	59	54	61	56	52	50
4	77	65	56	50	74	63	55	49	60	53	48	57	51	46	54	49	45	43
5	70	58	49	43	68	56	48	42	54	47	41	51	45	40	49	43	39	37
6	65	52	44	37	63	51	43	37	49	41	36	46	40	35	44	39	34	32
7	60	47	39	33	58	46	38	33	44	37	32	42	36	31	40	35	31	29
8	56	43	35	29	54	42	34	29	40	33	29	39	33	28	37	32	27	25
9	52	40	32	26	51	39	31	26	37	30	26	36	30	25	34	29	25	23
10	49	37	29	24	48	36	29	24	34	28	23	33	27	23	32	26	23	21

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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	15.7	17.2	16.2	17.7	18.2	17.9	19.4	18.4	19.8	20.3
	3H	17.2	18.5	17.7	19.0	19.5	20.1	21.5	20.6	22.0	22.5
	4H	17.7	19.0	18.2	19.5	20.0	21.2	22.5	21.7	23.0	23.5
	6H	18.0	19.3	18.6	19.8	20.3	22.3	23.5	22.8	24.0	24.5
	8H	18.2	19.3	18.7	19.8	20.4	22.9	24.0	23.4	24.5	25.1
	12H	18.2	19.3	18.7	19.8	20.4	23.5	24.6	24.0	25.1	25.7
4H	2H	16.4	17.7	16.9	18.2	18.8	18.2	19.5	18.7	20.0	20.5
	3H	18.1	19.2	18.6	19.7	20.3	20.7	21.8	21.2	22.3	22.9
	4H	18.7	19.8	19.3	20.3	20.9	21.9	22.9	22.4	23.5	24.1
	6H	19.2	20.1	19.8	20.7	21.3	23.2	24.1	23.8	24.7	25.3
	8H	19.4	20.2	19.9	20.8	21.4	23.9	24.7	24.4	25.3	25.9
	12H	19.5	20.2	20.1	20.8	21.5	24.6	25.4	25.2	26.0	26.6
8H	4H	19.3	20.1	19.8	20.7	21.3	22.1	22.9	22.6	23.5	24.1
	6H	19.9	20.6	20.5	21.2	21.9	23.5	24.2	24.1	24.8	25.5
	8H	20.2	20.8	20.8	21.4	22.1	24.3	25.0	24.9	25.6	26.2
	12H	20.4	20.9	21.0	21.5	22.3	25.3	25.8	25.9	26.4	27.1
12H	4H	19.4	20.1	20.0	20.7	21.4	22.1	22.8	22.7	23.4	24.1
	6H	20.1	20.8	20.8	21.4	22.1	23.6	24.2	24.2	24.8	25.5
	8H	20.5	21.0	21.1	21.7	22.4	24.4	25.0	25.0	25.6	26.3

Maximum UGR = 27.1

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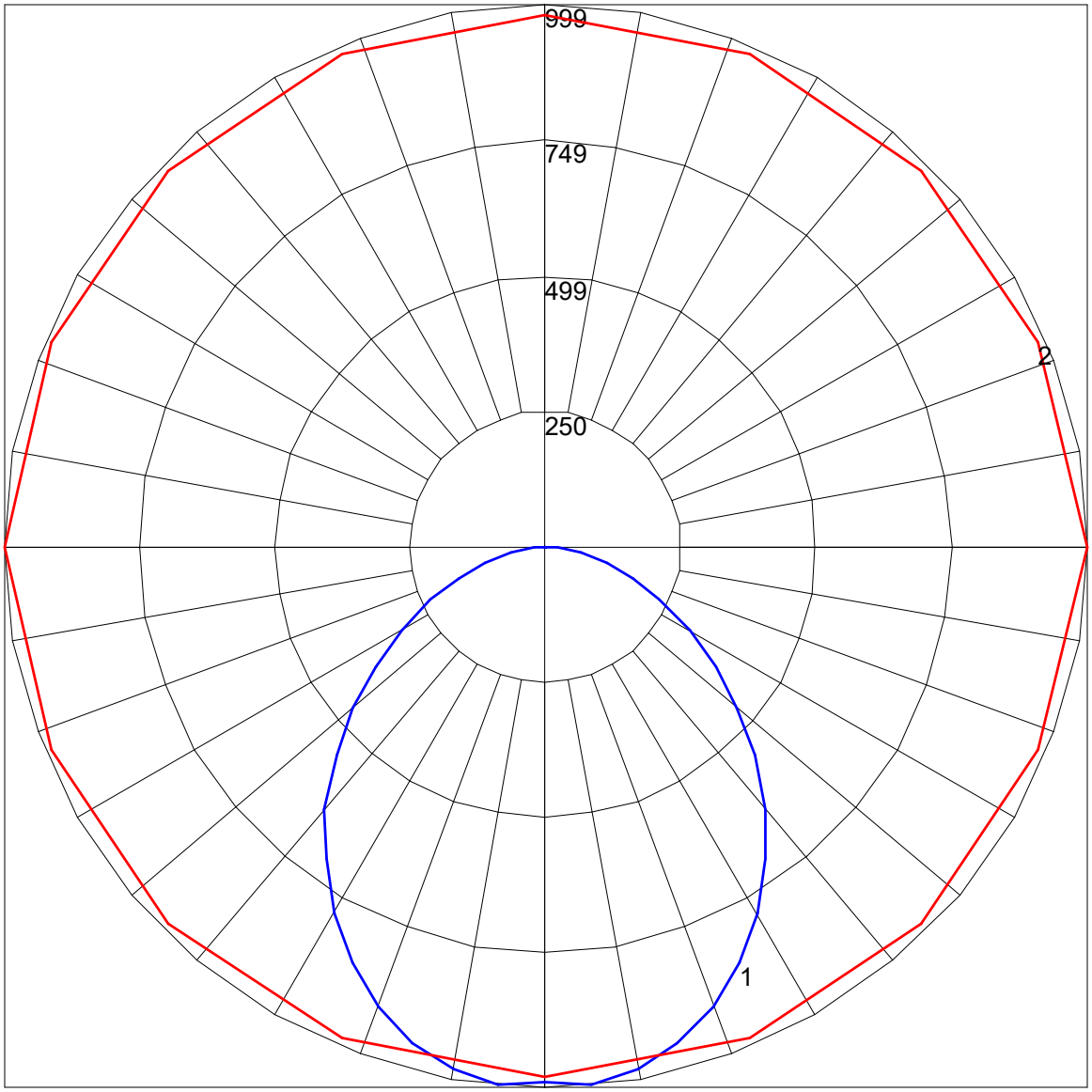
POLAR GRAPH



Maximum Candela = 998.699 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.)