H.E. WILLIAMS, INC.

IES INDOOR REPORT
PHOTOMETRIC FILENAME : 76R-4-L52-835-(L44)-EM10W-DIM-UNV_EM MODE.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] 210-27-2021
[MANUFAC] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4' LED LENSED LUMINAIRE
[MORE] WHITE REFLECTOR w/RADIAL RIBBED FROST ACRYLIC LENS
[LUMCAT] 76R-4-L52-835-(L44)-EM10W-DIM-UNV
[LAMPCAT] HLM 80 CRI 3500K CCT

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1432
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
Total Luminaire Watts	10
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	2505	2296	2356
55	2136	1989	2095
65	1718	1648	1814
75	1333	1397	1567
85	625	1260	1459

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0
0	462.285	462.285	462.285	462.285	462.285
5	466.161	460.049	458.857	458.857	457.515
10	457.664	452.446	452.744	453.937	452.446
15	442.309	438.284	441.564	445.142	444.694
20	422.482	420.842	426.209	432.768	433.066
25	395.052	396.841	406.531	415.177	417.413
30	366.131	369.262	383.126	394.307	398.630
35	330.055	337.359	355.696	370.305	375.374
40	295.618	303.519	325.582	346.006	350.776
45	254.771	266.250	293.084	315.147	321.110
50	216.608	230.770	260.138	284.437	290.997
55	178.891	192.756	226.447	251.641	259.393
60	143.113	158.766	193.352	216.608	225.403
65	108.677	125.224	159.064	188.730	195.141
70	80.203	94.812	130.293	159.064	166.667
75	54.413	70.662	106.589	132.380	138.045
80	30.262	50.090	85.272	108.677	116.727
85	10.733	33.840	67.681	89.446	96.154
90	0.000	22.361	52.773	74.091	78.414
95	0.000	14.311	41.592	60.674	67.233
100	0.000	9.541	31.902	50.239	55.456
105	0.000	6.410	25.194	40.549	46.363
110	0.000	2.982	19.976	33.244	38.760
115	0.000	1.938	15.951	28.026	31.902
120	0.000	0.000	12.671	22.958	26.983
125	0.000	0.000	9.839	18.336	21.467
130	0.000	0.000	7.752	14.460	17.144
135	0.000	0.000	6.261	11.181	13.715
140	0.000	0.000	3.280	8.497	10.435
145	0.000	0.000	1.193	6.559	7.603
150	0.000	0.000	0.000	5.665	6.410
155	0.000	0.000	0.000	5.367	5.665
160	0.000	0.000	0.000	3.131	5.218
165	0.000	0.000	0.000	1.044	1.789
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	168.45	N.A.	11.80
0-30	355.61	N.A.	24.80
0-40	577.25	N.A.	40.30
0-60	1001.13	N.A.	69.90
0-80	1264.64	N.A.	88.30
0-90	1332.45	N.A.	93.10
10-90	1288.74	N.A.	90.00
20-40	408.80	N.A.	28.60
20-50	633.41	N.A.	44.20
40-70	579.31	N.A.	40.50
60-80	263.52	N.A.	18.40
70-80	108.08	N.A.	7.50
80-90	67.80	N.A.	4.70
90-110	67.03	N.A.	4.70
90-120	82.47	N.A.	5.80
90-130	91.35	N.A.	6.40
90-150	97.99	N.A.	6.80
90-180	99.08	N.A.	6.90
110-180	32.05	N.A.	2.20
0-180	1431.52	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	43.70
10-20	124.75
20-30	187.16
30-40	221.64
40-50	224.62
50-60	199.26
60-70	155.43
70-80	108.08
80-90	67.80
90-100	41.49
100-110	25.53
110-120	15.45
120-130	8.88
130-140	4.69
140-150	1.94
150-160	0.91
160-170	0.19
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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	106	101	96	92	102	98	93	89	92	89	85	87	84	82	82	80	78	75
2	96	87	80	74	93	85	78	73	80	75	70	76	71	67	72	68	65	62
3	87	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	45
5	74	61	51	45	71	59	51	44	56	49	43	53	47	42	51	45	41	39
6	68	55	46	39	66	53	45	39	51	43	38	48	42	37	46	40	36	34
7	63	49	41	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	37	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	28	53	41	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	24	22

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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	12.1	13.6	12.5	14.0	14.5	15.1	16.6	15.6	17.0	17.5
	3H	13.3	14.6	13.8	15.1	15.6	17.3	18.7	17.8	19.2	19.7
	4H	13.7	15.0	14.2	15.4	16.0	18.4	19.7	18.9	20.2	20.7
	6H	13.9	15.1	14.4	15.6	16.1	19.5	20.7	20.0	21.2	21.7
	8H	13.9	15.1	14.5	15.6	16.2	20.0	21.2	20.6	21.7	22.3
	12H	13.9	15.0	14.5	15.6	16.2	20.7	21.8	21.2	22.3	22.9
4H	2H	13.0	14.3	13.5	14.8	15.3	15.4	16.7	15.9	17.2	17.7
	3H	14.5	15.6	15.0	16.1	16.7	17.9	19.0	18.4	19.5	20.1
	4H	15.0	16.0	15.5	16.5	17.1	19.1	20.1	19.6	20.7	21.3
	6H	15.3	16.2	15.8	16.7	17.4	20.4	21.3	21.0	21.9	22.5
	8H	15.4	16.2	15.9	16.8	17.4	21.1	21.9	21.6	22.5	23.1
	12H	15.4	16.2	16.0	16.8	17.4	21.8	22.6	22.4	23.2	23.8
8H	4H	15.7	16.5	16.3	17.1	17.7	19.3	20.1	19.8	20.7	21.3
	6H	16.2	16.9	16.8	17.5	18.2	20.7	21.4	21.3	22.0	22.7
	8H	16.4	17.0	17.0	17.6	18.3	21.5	22.2	22.1	22.8	23.4
	12H	16.5	17.0	17.1	17.7	18.4	22.5	23.0	23.1	23.6	24.3
12H	4H	15.9	16.7	16.5	17.3	17.9	19.3	20.0	19.9	20.6	21.2
	6H	16.5	17.2	17.2	17.8	18.4	20.8	21.4	21.4	22.0	22.7
	8H	16.8	17.4	17.4	18.0	18.7	21.6	22.2	22.2	22.8	23.5

Maximum UGR = 24.3

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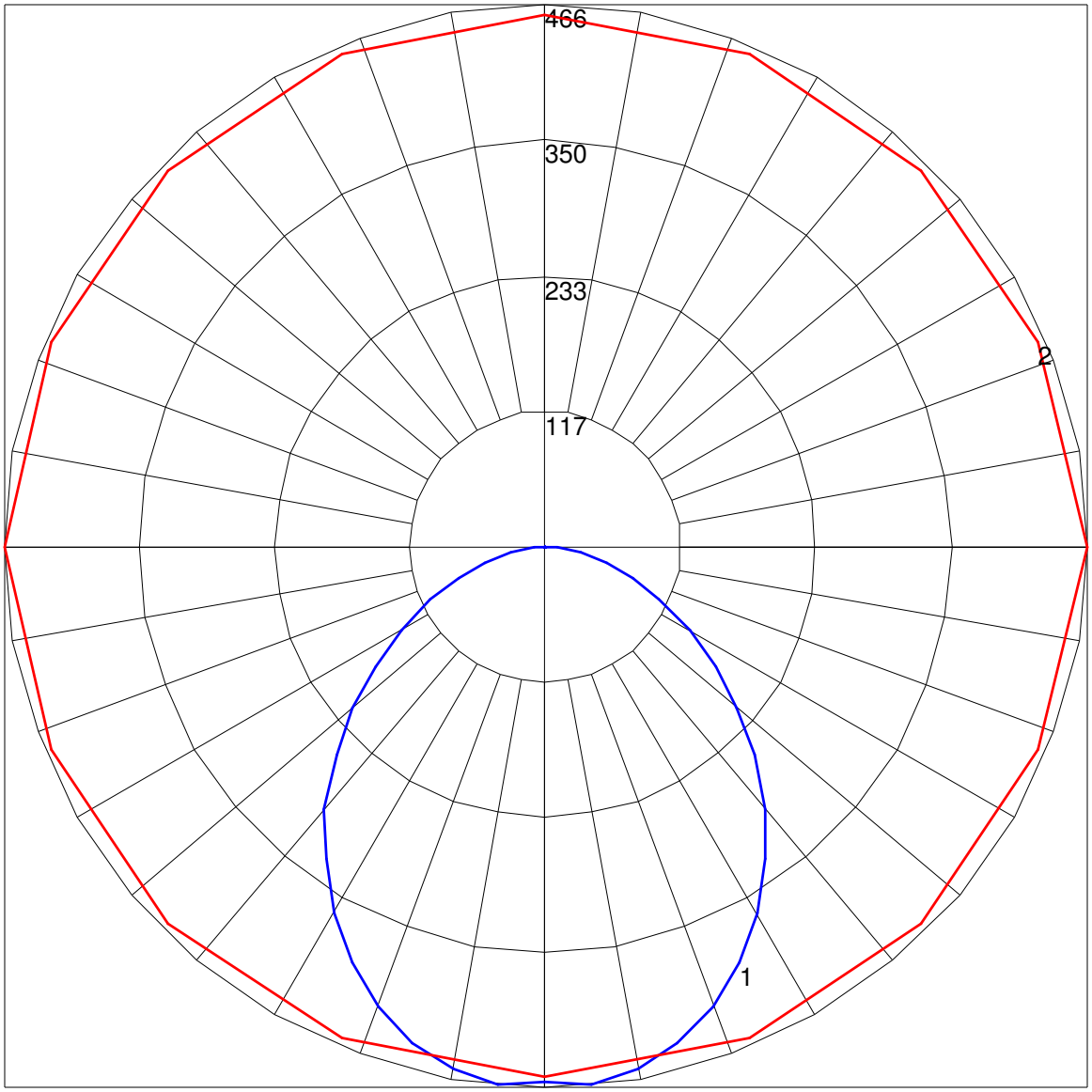
POLAR GRAPH



Maximum Candela = 466.161 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.)

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