IES INDOOR REPORT
PHOTOMETRIC FILENAME : MHB-01-LED-12L-CPW-40-80CRI.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 3829
[TESTLAB] TUV SUD America
[TESTDATE] 1/27/2020 2:14:46 PM
[ISSUEDATE] 04/05/2022
[MANUFAC] LSI INDUSTRIES, INC.
[LUMCAT] MHB-01-LED-12L-CPW-40-80CRI
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[_ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
[OTHER] SCALED FROM ORIGINAL TEST DATA
[_SEARCH_SOURCETYPE] LED
[_SEARCH_APPLICATION] Indoor
[_SEARCH_COLORTEMP] 4000

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	12386
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	159
Total Luminaire Watts	78
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.36
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.14 ft
Luminous Width (90-270)	1.16 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	36134	33754	36008
55	33502	33545	33148
65	23802	28074	27516
75	19072	17752	17124
85	13996	11290	5692

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CANDELA TABULATION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	202.5
0.0	4507	4507	4507	4507	4507	4507	4507	4507	4507	4507
2.5	4475	4498	4511	4497	4533	4497	4513	4502	4482	4502
5.0	4460	4485	4496	4483	4521	4484	4498	4489	4472	4489
7.5	4434	4465	4474	4461	4498	4463	4478	4469	4451	4469
10.0	4400	4434	4444	4432	4466	4433	4447	4438	4424	4438
12.5	4354	4391	4404	4391	4429	4393	4411	4396	4383	4396
15.0	4291	4339	4359	4345	4382	4347	4362	4340	4327	4340
17.5	4214	4269	4301	4289	4327	4293	4302	4266	4252	4266
20.0	4118	4183	4233	4226	4262	4229	4231	4175	4161	4175
22.5	3997	4077	4146	4155	4187	4157	4142	4068	4054	4068
25.0	3912	3960	4044	4071	4101	4071	4036	3959	3937	3959
27.5	3791	3862	3954	3977	4009	3992	3939	3855	3842	3855
30.0	3662	3730	3837	3915	3936	3911	3828	3726	3721	3726
32.5	3560	3602	3698	3803	3838	3799	3687	3605	3609	3605
35.0	3462	3479	3547	3677	3719	3671	3539	3491	3514	3491
37.5	3391	3371	3391	3539	3588	3530	3388	3391	3444	3391
40.0	3326	3279	3235	3386	3445	3378	3236	3311	3389	3311
42.5	3245	3193	3081	3222	3292	3215	3093	3234	3321	3234
45.0	3142	3096	2935	3042	3131	3036	2956	3138	3227	3138
47.5	3018	2986	2799	2852	2954	2847	2827	3028	3119	3028
50.0	2855	2853	2662	2649	2755	2641	2698	2892	2979	2892
52.5	2626	2683	2517	2428	2548	2427	2556	2715	2790	2715
55.0	2363	2467	2366	2203	2338	2200	2402	2495	2544	2495
57.5	2089	2213	2185	1980	2122	1984	2220	2240	2262	2240
60.0	1804	1932	1971	1769	1904	1776	2000	1955	1974	1955
62.5	1500	1640	1722	1555	1668	1566	1745	1664	1683	1664
65.0	1237	1362	1459	1347	1430	1365	1466	1378	1412	1378
67.5	1024	1111	1192	1144	1194	1161	1205	1132	1173	1132
70.0	886	915	938	947	966	959	959	937	980	937
72.5	760	774	726	748	745	755	745	796	849	796
75.0	607	635	565	556	545	564	583	659	707	659
77.5	439	487	441	390	366	396	457	509	554	509
80.0	313	337	319	258	224	263	333	356	397	356
82.5	241	241	204	161	124	166	217	252	291	252
85.0	150	161	121	87	61	93	131	173	221	173
87.5	50	64	45	33	26	36	55	79	123	79
90.0	0	0	0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0	0	0	0

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CANDELA TABULATION - (Cont.)

135.0	0	0	0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0	0

Vert. Angles	**Horizontal Angles**						
	225.0	**247.5**	**270.0**	**292.5**	**315.0**	**337.5**	**360.0**
0.0	4507	4507	4507	4507	4507	4507	4507
2.5	4513	4497	4533	4497	4511	4498	4475
5.0	4498	4484	4521	4483	4496	4485	4460
7.5	4478	4463	4498	4461	4474	4465	4434
10.0	4447	4433	4466	4432	4444	4434	4400
12.5	4411	4393	4429	4391	4404	4391	4354
15.0	4362	4347	4382	4345	4359	4339	4291
17.5	4302	4293	4327	4289	4301	4269	4214
20.0	4231	4229	4262	4226	4233	4183	4118
22.5	4142	4157	4187	4155	4146	4077	3997
25.0	4036	4071	4101	4071	4044	3960	3912
27.5	3939	3992	4009	3977	3954	3862	3791
30.0	3828	3911	3936	3915	3837	3730	3662
32.5	3687	3799	3838	3803	3698	3602	3560
35.0	3539	3671	3719	3677	3547	3479	3462
37.5	3388	3530	3588	3539	3391	3371	3391
40.0	3236	3378	3445	3386	3235	3279	3326
42.5	3093	3215	3292	3222	3081	3193	3245
45.0	2956	3036	3131	3042	2935	3096	3142
47.5	2827	2847	2954	2852	2799	2986	3018
50.0	2698	2641	2755	2649	2662	2853	2855
52.5	2556	2427	2548	2428	2517	2683	2626
55.0	2402	2200	2338	2203	2366	2467	2363
57.5	2220	1984	2122	1980	2185	2213	2089
60.0	2000	1776	1904	1769	1971	1932	1804
62.5	1745	1566	1668	1555	1722	1640	1500
65.0	1466	1365	1430	1347	1459	1362	1237
67.5	1205	1161	1194	1144	1192	1111	1024
70.0	959	959	966	947	938	915	886
72.5	745	755	745	748	726	774	760
75.0	583	564	545	556	565	635	607
77.5	457	396	366	390	441	487	439
80.0	333	263	224	258	319	337	313

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CANDELA TABULATION - (Cont.)

82.5	217	166	124	161	204	241	241
85.0	131	93	61	87	121	161	150
87.5	55	36	26	33	45	64	50
90.0	0	0	0	0	0	0	0
92.5	0	0	0	0	0	0	0
95.0	0	0	0	0	0	0	0
97.5	0	0	0	0	0	0	0
100.0	0	0	0	0	0	0	0
102.5	0	0	0	0	0	0	0
105.0	0	0	0	0	0	0	0
107.5	0	0	0	0	0	0	0
110.0	0	0	0	0	0	0	0
112.5	0	0	0	0	0	0	0
115.0	0	0	0	0	0	0	0
117.5	0	0	0	0	0	0	0
120.0	0	0	0	0	0	0	0
122.5	0	0	0	0	0	0	0
125.0	0	0	0	0	0	0	0
127.5	0	0	0	0	0	0	0
130.0	0	0	0	0	0	0	0
132.5	0	0	0	0	0	0	0
135.0	0	0	0	0	0	0	0
137.5	0	0	0	0	0	0	0
140.0	0	0	0	0	0	0	0
142.5	0	0	0	0	0	0	0
145.0	0	0	0	0	0	0	0
147.5	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0
152.5	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0
157.5	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0
162.5	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0
167.5	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0
172.5	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0
177.5	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1653.58	N.A.	13.40
0-30	3509.26	N.A.	28.30
0-40	5749.86	N.A.	46.40
0-60	10214.31	N.A.	82.50
0-80	12239.7	N.A.	98.80
0-90	12385.59	N.A.	100.00
10-90	11958.61	N.A.	96.60
20-40	4096.28	N.A.	33.10
20-50	6458.17	N.A.	52.10
40-70	5850.98	N.A.	47.20
60-80	2025.39	N.A.	16.40
70-80	638.87	N.A.	5.20
80-90	145.89	N.A.	1.20
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	12385.59	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	426.98
10-20	1226.6
20-30	1855.68
30-40	2240.6
40-50	2361.89
50-60	2102.56
60-70	1386.53
70-80	638.87
80-90	145.88
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	109	105	101	97	107	103	99	96	98	95	93	94	92	90	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	74	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	66	63	60
4	83	72	63	57	81	70	62	56	68	61	55	66	60	55	63	58	54	52
5	77	64	55	49	75	63	55	48	61	54	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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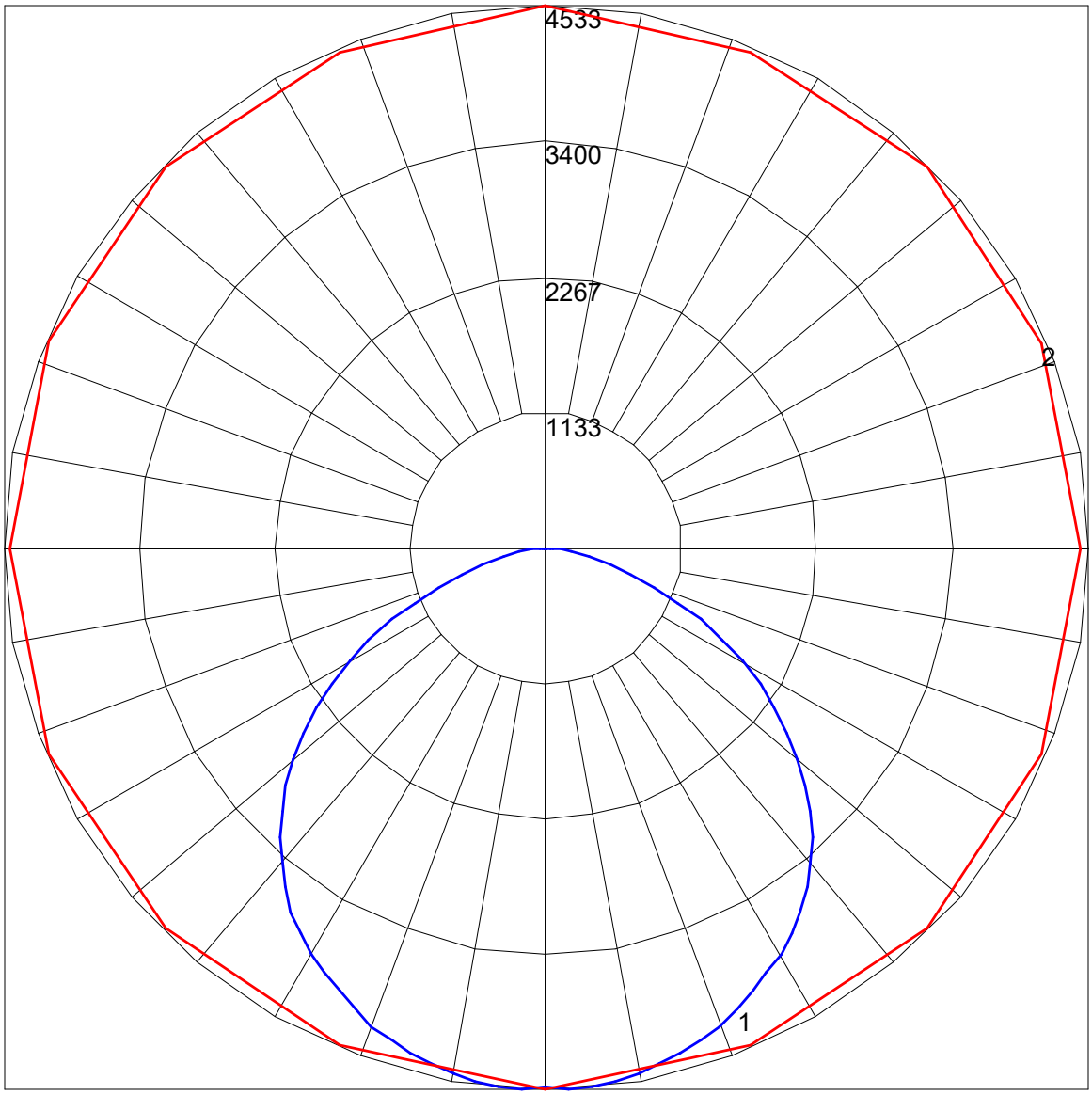
POLAR GRAPH



Maximum Candela = 4533 Located At Horizontal Angle = 90, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)

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