IES INDOOR REPORT
PHOTOMETRIC FILENAME : MHB-03-LED-90L-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-03-LED-90L-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	89545
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	161
Total Luminaire Watts	557
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.42 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	87093	81362	86767
55	80743	80847	79892
65	57354	67655	66340
75	45957	42825	41223
85	33745	27338	13871

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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	32578	32578	32578	32578	32578	32578	32578	32578	32578	32578
2.5	32353	32525	32612	32515	32774	32511	32622	32553	32402	32553
5.0	32238	32424	32509	32410	32683	32418	32525	32456	32327	32456
7.5	32060	32278	32341	32246	32519	32259	32375	32307	32184	32307
10.0	31816	32056	32129	32041	32287	32047	32156	32085	31985	32085
12.5	31479	31747	31844	31747	32022	31760	31888	31782	31689	31782
15.0	31022	31367	31507	31418	31679	31426	31535	31377	31280	31377
17.5	30463	30862	31096	31008	31280	31040	31109	30840	30741	30840
20.0	29770	30238	30600	30553	30810	30572	30590	30185	30076	30185
22.5	28901	29471	29976	30032	30273	30048	29945	29406	29303	29406
25.0	28283	28628	29240	29434	29648	29434	29181	28616	28467	28616
27.5	27410	27917	28585	28753	28982	28866	28476	27868	27778	27868
30.0	26474	26963	27743	28305	28460	28270	27677	26935	26897	26935
32.5	25731	26034	26739	27493	27749	27469	26654	26062	26090	26062
35.0	25030	25151	25644	26583	26889	26542	25591	25242	25404	25242
37.5	24517	24368	24515	25585	25943	25523	24493	24517	24905	24517
40.0	24044	23705	23389	24477	24911	24424	23398	23935	24505	23935
42.5	23464	23087	22275	23293	23804	23242	22363	23383	24010	23383
45.0	22719	22388	21224	21994	22634	21954	21371	22687	23329	22687
47.5	21816	21586	20232	20614	21352	20576	20442	21889	22547	21889
50.0	20635	20622	19247	19147	19915	19095	19499	20913	21539	20913
52.5	18985	19400	18200	17557	18420	17547	18477	19630	20176	19630
55.0	17085	17837	17107	15929	16905	15903	17360	18037	18390	18037
57.5	15105	16000	15800	14319	15342	14347	16047	16196	16356	16196
60.0	13044	13970	14247	12788	13767	12844	14456	14135	14275	14135
62.5	10844	11852	12451	11240	12061	11325	12610	12030	12174	12030
65.0	8942	9853	10548	9734	10343	9869	10602	9965	10208	9965
67.5	7410	8032	8618	8269	8630	8394	8709	8190	8481	8190
70.0	6404	6618	6778	6846	6984	6933	6931	6774	7087	6774
72.5	5495	5602	5252	5408	5386	5461	5386	5751	6135	5751
75.0	4388	4592	4089	4024	3936	4079	4210	4766	5111	4766
77.5	3172	3519	3188	2820	2648	2860	3303	3677	4002	3677
80.0	2267	2436	2311	1865	1625	1899	2408	2573	2869	2573
82.5	1743	1743	1475	1166	899	1204	1569	1822	2103	1822
85.0	1085	1166	879	627	446	671	942	1257	1604	1257
87.5	362	461	327	234	184	259	396	568	893	568
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	32578	32578	32578	32578	32578	32578	32578
2.5	32622	32511	32774	32515	32612	32525	32353
5.0	32525	32418	32683	32410	32509	32424	32238
7.5	32375	32259	32519	32246	32341	32278	32060
10.0	32156	32047	32287	32041	32129	32056	31816
12.5	31888	31760	32022	31747	31844	31747	31479
15.0	31535	31426	31679	31418	31507	31367	31022
17.5	31109	31040	31280	31008	31096	30862	30463
20.0	30590	30572	30810	30553	30600	30238	29770
22.5	29945	30048	30273	30032	29976	29471	28901
25.0	29181	29434	29648	29434	29240	28628	28283
27.5	28476	28866	28982	28753	28585	27917	27410
30.0	27677	28270	28460	28305	27743	26963	26474
32.5	26654	27469	27749	27493	26739	26034	25731
35.0	25591	26542	26889	26583	25644	25151	25030
37.5	24493	25523	25943	25585	24515	24368	24517
40.0	23398	24424	24911	24477	23389	23705	24044
42.5	22363	23242	23804	23293	22275	23087	23464
45.0	21371	21954	22634	21994	21224	22388	22719
47.5	20442	20576	21352	20614	20232	21586	21816
50.0	19499	19095	19915	19147	19247	20622	20635
52.5	18477	17547	18420	17557	18200	19400	18985
55.0	17360	15903	16905	15929	17107	17837	17085
57.5	16047	14347	15342	14319	15800	16000	15105
60.0	14456	12844	13767	12788	14247	13970	13044
62.5	12610	11325	12061	11240	12451	11852	10844
65.0	10602	9869	10343	9734	10548	9853	8942
67.5	8709	8394	8630	8269	8618	8032	7410
70.0	6931	6933	6984	6846	6778	6618	6404
72.5	5386	5461	5386	5408	5252	5602	5495
75.0	4210	4079	3936	4024	4089	4592	4388
77.5	3303	2860	2648	2820	3188	3519	3172
80.0	2408	1899	1625	1865	2311	2436	2267

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CANDELA TABULATION - (Cont.)

82.5	1569	1204	899	1166	1475	1743	1743
85.0	942	671	446	627	879	1166	1085
87.5	396	259	184	234	327	461	362
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	11954.73	N.A.	13.40
0-30	25370.3	N.A.	28.30
0-40	41569.29	N.A.	46.40
0-60	73846.22	N.A.	82.50
0-80	88489.67	N.A.	98.80
0-90	89544.83	N.A.	100.00
10-90	86457.97	N.A.	96.60
20-40	29614.56	N.A.	33.10
20-50	46690.13	N.A.	52.10
40-70	42301.46	N.A.	47.20
60-80	14643.46	N.A.	16.40
70-80	4618.92	N.A.	5.20
80-90	1055.16	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	89544.83	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	3086.86
10-20	8867.88
20-30	13415.56
30-40	16199.00
40-50	17075.57
50-60	15201.35
60-70	10024.54
70-80	4618.92
80-90	1055.16
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	67	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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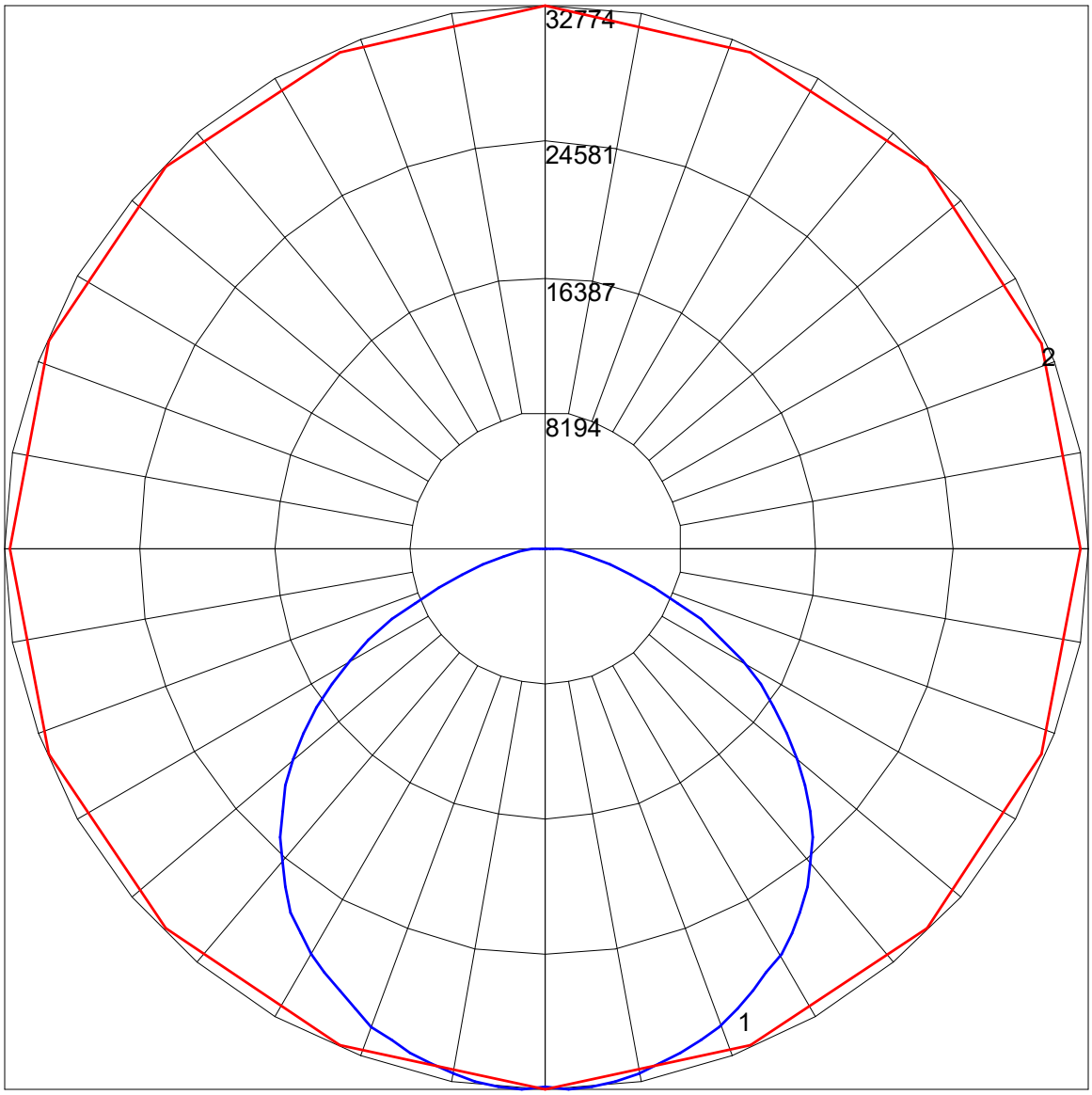
POLAR GRAPH



Maximum Candela = 32774 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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