



IES INDOOR REPORT
PHOTOMETRIC FILENAME : NLR48MFA40.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 8,389P
[TESTLAB] CSA Group
[ISSUEDATE] 10/29/2015 11:51:52 AM
[LUMINAIRE] NLR48MFA40
[_AMBIENT] 24.6 deg C
[_POWERFACTOR] 0.9973
[_ATHD] 5.35%
[_CURRENT] 0.2752
[_VOLTAGE] 120.00
[_STABILIZATION] 23:22.1 Stable
[_POWER VARIATION] 0.36 %
[_LIGHT VARIATION] 0.40 %
[_Lumens] 3,210
[MANUFAC] LAMAR LIGHTING CO., INC.
[_SEARCH_SOURCE] LED
[_SEARCH_APPLICATION] Indoor
[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3210
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	33.02
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.12
Spacing Criterion (Diagonal)	1.26
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.16 ft
Luminous Width (90-270)	3.91 ft
Luminous Height	0.00 ft

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	18654	17720	16743
55	16969	16110	15248
65	15003	14388	13722
75	12247	12157	11891
85	6565	9303	10623

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CANDELA TABULATION

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0.0	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217
2.5	1332.266	1333.005	1332.736	1335.109	1337.357	1340.537	1337.386	1335.205	1334.062	1331.209
5.0	1326.829	1326.569	1326.252	1327.866	1329.922	1331.834	1329.077	1325.935	1323.755	1321.104
7.5	1317.069	1315.791	1315.686	1316.128	1317.405	1318.203	1314.206	1309.807	1307.463	1304.879
10.0	1303.457	1301.114	1300.316	1300.114	1300.201	1299.413	1294.159	1289.327	1286.426	1284.130
12.5	1285.398	1283.073	1280.643	1279.750	1279.029	1276.954	1270.509	1264.006	1260.845	1257.800
15.0	1262.709	1260.125	1257.281	1255.812	1252.526	1249.145	1242.363	1234.544	1230.154	1227.339
17.5	1236.552	1233.795	1229.779	1227.320	1222.998	1217.407	1208.877	1200.327	1195.678	1192.009
20.0	1207.455	1204.420	1198.541	1194.295	1189.828	1182.806	1171.759	1163.825	1157.264	1153.383
22.5	1173.008	1171.154	1165.102	1158.772	1153.306	1144.180	1132.749	1123.143	1116.140	1112.346
25.0	1135.679	1134.286	1128.004	1120.751	1112.480	1102.999	1090.819	1080.243	1073.624	1068.091
27.5	1096.919	1095.286	1087.649	1079.666	1071.636	1058.927	1046.612	1035.239	1027.573	1023.145
30.0	1055.113	1053.759	1045.162	1036.881	1026.718	1013.616	999.485	987.871	981.339	975.710
32.5	1010.129	1008.918	1000.465	991.752	980.782	966.748	951.916	939.659	933.578	928.314
35.0	963.808	963.962	952.713	945.432	933.040	918.737	903.291	891.917	885.097	880.678
37.5	915.923	915.884	906.461	897.815	883.579	868.997	855.751	844.098	837.662	833.282
40.0	869.410	868.267	858.114	848.959	835.223	820.919	806.501	795.108	788.864	784.685
42.5	819.248	818.470	808.134	799.085	785.425	771.794	757.462	747.366	740.575	736.069
45.0	767.347	768.019	758.423	749.316	735.925	721.891	708.164	699.682	693.025	688.721
47.5	718.308	716.608	708.452	699.250	687.357	674.351	661.892	653.093	646.465	640.960
50.0	667.848	666.676	659.894	649.519	638.261	625.956	615.485	606.542	599.328	595.985
52.5	617.723	616.945	611.787	601.220	590.635	579.175	569.021	560.501	554.324	551.471
55.0	566.216	566.293	561.980	553.450	543.469	531.654	522.720	515.621	510.434	508.791
57.5	516.294	516.764	512.615	505.035	496.160	486.313	476.794	471.280	466.554	464.172
60.0	466.544	467.092	462.433	458.206	447.957	439.715	432.933	427.534	423.529	421.386
62.5	418.130	418.802	414.787	410.071	401.127	394.451	388.928	385.201	381.867	379.523
65.0	368.851	371.339	367.458	363.203	356.507	350.994	346.027	342.723	341.397	337.353
67.5	320.984	323.713	321.446	316.450	312.157	307.267	303.454	300.601	301.407	296.652
70.0	274.972	276.259	274.405	271.562	268.372	264.847	262.426	259.564	261.418	255.452
72.5	229.055	230.467	229.286	226.279	223.974	222.619	221.687	219.785	221.428	216.990
75.0	184.397	185.943	185.156	183.792	182.850	183.225	182.293	181.352	181.438	179.046
77.5	140.593	142.812	143.687	143.907	145.012	145.195	144.926	145.127	144.839	144.109
80.0	101.391	103.207	104.033	105.954	107.376	109.633	110.632	111.007	111.257	110.824
82.5	64.908	65.753	68.203	72.218	74.418	77.088	78.731	80.479	80.911	80.854
85.0	33.285	34.389	38.338	41.997	45.215	49.125	51.258	53.121	53.563	53.861
87.5	9.443	11.239	15.283	18.924	22.853	25.898	29.308	30.999	31.863	32.286
90.0	0.058	1.739	4.803	8.492	11.835	14.928	17.838	19.491	21.104	21.460

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0.0	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217
2.5	1330.249	1325.426	1323.361	1317.261	1316.733	1322.717	1327.290	1332.977	1331.584	1331.622
5.0	1319.000	1315.753	1313.697	1308.039	1307.886	1313.371	1319.346	1325.330	1325.436	1325.801
7.5	1302.843	1300.114	1297.492	1293.333	1293.323	1299.730	1306.579	1312.670	1315.974	1315.119
10.0	1280.691	1279.538	1277.156	1273.458	1275.091	1280.585	1289.730	1296.541	1301.431	1300.633
12.5	1254.524	1254.044	1252.123	1249.164	1252.296	1258.549	1268.933	1276.609	1281.517	1281.287
15.0	1224.544	1223.632	1223.478	1221.653	1225.341	1234.381	1243.439	1251.643	1258.194	1257.502
17.5	1189.857	1189.242	1190.078	1189.357	1194.439	1204.227	1215.812	1223.776	1231.825	1231.374
20.0	1152.393	1152.605	1153.882	1154.084	1160.174	1170.981	1183.325	1192.364	1202.998	1201.576
22.5	1110.655	1110.367	1114.200	1114.844	1124.363	1134.738	1148.320	1158.224	1170.433	1168.311
25.0	1067.793	1067.918	1072.616	1075.286	1084.220	1097.716	1110.137	1120.550	1133.729	1132.970
27.5	1023.241	1022.991	1028.505	1032.328	1041.694	1054.768	1071.194	1078.831	1093.787	1092.980
30.0	975.970	976.901	982.271	987.314	997.372	1011.512	1027.429	1036.084	1051.867	1052.020

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CANDELA TABULATION - (Cont.)

32.5	926.624	929.842	934.635	940.600	951.349	966.392	982.463	991.301	1008.006	1008.736
35.0	878.440	882.494	887.239	893.915	905.058	920.053	936.460	944.741	963.367	964.145
37.5	831.630	833.810	839.997	847.845	857.941	872.619	886.836	897.325	915.826	914.779
40.0	783.638	785.233	792.380	799.892	810.045	823.753	838.854	848.652	866.845	866.019
42.5	735.810	736.953	743.985	751.708	760.517	775.031	788.701	799.488	817.941	815.972
45.0	687.751	689.644	695.455	702.679	711.757	726.262	738.884	749.931	768.538	766.761
47.5	641.806	643.602	649.116	656.714	663.525	679.010	689.231	699.115	719.826	717.645
50.0	595.226	597.753	603.929	609.750	616.254	629.452	640.835	648.491	669.596	666.954
52.5	552.057	552.796	557.753	564.074	570.414	581.153	591.730	600.509	618.396	616.417
55.0	505.458	509.329	512.739	517.811	524.295	533.988	542.912	550.914	568.176	566.447
57.5	462.807	465.564	467.879	474.075	479.666	487.745	495.362	501.520	520.799	518.570
60.0	420.032	421.819	424.633	429.917	434.191	441.751	447.380	453.038	472.039	469.791
62.5	378.496	378.505	381.243	384.999	389.197	395.095	400.465	405.229	423.471	422.337
65.0	337.113	337.094	339.390	342.752	345.489	350.340	354.577	357.314	374.605	373.308
67.5	295.884	295.365	296.019	300.053	302.099	305.115	308.295	311.532	326.777	325.874
70.0	255.414	254.982	255.520	257.354	257.931	262.071	263.070	264.434	280.812	280.130
72.5	216.414	215.424	215.847	216.058	216.058	217.230	219.094	218.527	234.348	235.616
75.0	179.306	177.490	177.000	176.779	175.425	175.310	175.934	175.963	191.400	191.284
77.5	142.620	142.438	140.449	138.605	137.961	136.136	135.531	135.224	147.625	147.990
80.0	109.220	108.692	106.483	103.927	101.430	99.710	98.000	96.598	107.923	108.356
82.5	79.960	78.010	75.839	73.486	69.903	66.877	64.005	61.325	71.094	72.429
85.0	53.227	50.835	49.365	45.686	42.218	38.491	34.735	31.709	39.250	41.142
87.5	31.498	29.673	27.531	24.438	20.624	17.156	12.978	9.942	14.399	16.282
90.0	20.835	19.462	19.491	14.716	11.787	8.175	5.043	1.940	0.903	2.959

**Vert.
Angles**

Horizontal Angles

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0.0	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217
2.5	1331.545	1334.975	1337.453	1340.652	1337.357	1335.724	1335.484	1333.418	1332.054	1328.212
5.0	1324.994	1328.030	1330.834	1333.630	1330.594	1328.030	1328.260	1326.320	1325.407	1321.843
7.5	1314.869	1317.684	1320.489	1322.237	1318.529	1315.599	1316.243	1314.437	1313.717	1310.076
10.0	1300.220	1301.536	1304.380	1304.274	1300.950	1297.117	1296.512	1296.877	1294.860	1282.929
12.5	1279.923	1280.816	1281.508	1281.546	1277.387	1271.902	1271.489	1270.461	1269.529	1255.274
15.0	1256.446	1255.475	1255.158	1252.555	1247.733	1242.238	1239.818	1240.010	1238.002	1227.608
17.5	1229.270	1227.522	1225.879	1221.326	1215.332	1208.243	1206.946	1205.332	1204.804	1199.953
20.0	1199.040	1196.466	1192.585	1186.908	1179.655	1172.028	1169.079	1167.782	1167.456	1170.981
22.5	1164.776	1161.289	1155.439	1148.465	1140.319	1131.097	1128.196	1126.419	1127.312	1130.376
25.0	1126.467	1121.952	1114.901	1106.371	1095.708	1087.591	1083.403	1081.050	1082.587	1085.881
27.5	1085.440	1079.599	1071.194	1060.608	1049.148	1039.427	1035.825	1032.357	1035.421	1038.111
30.0	1042.357	1036.958	1027.198	1014.778	1000.494	991.762	988.092	984.846	988.457	990.811
32.5	998.342	991.868	981.647	967.459	952.829	943.905	939.467	936.921	940.946	944.625
35.0	950.917	944.644	933.117	920.745	905.308	895.366	890.851	887.748	892.609	897.277
37.5	903.627	895.894	884.165	868.940	854.242	844.656	840.083	838.316	841.649	848.681
40.0	853.628	847.998	834.252	818.710	802.408	793.360	790.785	787.586	791.679	797.577
42.5	804.868	798.566	784.109	768.336	755.060	743.687	740.498	739.739	741.967	749.354
45.0	756.059	749.816	735.013	719.163	707.799	697.857	693.111	692.669	694.687	702.218
47.5	707.088	699.422	686.570	671.546	661.815	651.911	646.522	648.520	648.059	656.244
50.0	658.770	648.818	636.926	622.430	614.361	605.668	600.519	600.951	602.287	609.241
52.5	608.780	599.587	587.666	574.045	566.495	559.338	554.689	554.180	556.283	562.182
55.0	559.886	551.087	539.761	526.255	519.685	514.171	509.742	510.319	511.923	516.457
57.5	511.337	503.268	492.980	483.364	477.111	471.511	468.629	467.908	470.953	474.402
60.0	464.882	456.621	447.745	439.138	433.432	430.618	428.168	427.179	429.215	433.298
62.5	416.459	409.984	402.107	395.940	390.734	388.467	387.429	385.700	389.264	390.974
65.0	368.832	363.472	357.170	352.752	347.901	346.642	345.576	343.924	347.113	349.063
67.5	321.532	318.160	313.031	309.169	305.817	304.827	304.453	303.809	306.114	308.084

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CANDELA TABULATION - (Cont.)

70.0	277.085	273.963	270.140	267.729	266.086	264.789	265.212	265.712	266.624	269.093
72.5	232.849	231.341	228.556	228.056	227.076	226.298	227.278	228.181	228.940	230.630
75.0	188.940	188.844	188.479	189.219	189.056	189.478	190.506	190.669	191.918	192.792
77.5	148.086	148.269	149.460	150.881	152.505	153.379	154.301	156.126	156.587	157.048
80.0	108.413	111.314	113.466	116.213	118.836	119.652	121.218	122.467	123.187	122.851
82.5	74.043	78.289	81.526	84.014	87.395	89.336	90.815	92.314	92.467	91.680
85.0	44.668	48.895	52.747	55.782	60.066	62.698	64.110	64.937	65.398	64.283
87.5	20.326	24.822	29.173	33.554	36.906	40.047	41.844	42.478	42.564	41.123
90.0	7.147	11.249	16.196	20.105	23.477	25.696	27.781	28.559	28.270	27.367

**Vert.
Angles**

Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0.0	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217	1333.217
2.5	1326.003	1320.412	1319.970	1325.580	1330.085	1334.888	1332.266
5.0	1319.711	1314.927	1315.359	1320.691	1325.474	1330.152	1326.829
7.5	1308.404	1304.860	1306.858	1312.381	1317.828	1322.391	1317.069
10.0	1292.007	1291.142	1292.487	1298.520	1305.254	1309.567	1303.457
12.5	1268.895	1269.010	1271.642	1278.943	1286.983	1292.641	1285.398
15.0	1241.076	1242.334	1246.580	1255.158	1264.092	1270.893	1262.709
17.5	1210.001	1212.181	1218.070	1227.676	1238.252	1245.745	1236.552
20.0	1176.293	1178.820	1186.869	1197.119	1209.376	1217.637	1207.455
22.5	1137.619	1142.182	1150.828	1163.536	1176.005	1185.208	1173.008
25.0	1094.335	1100.377	1111.779	1125.545	1139.906	1148.589	1135.679
27.5	1048.553	1055.767	1068.716	1083.653	1099.330	1108.792	1096.919
30.0	1002.127	1010.282	1025.777	1041.732	1057.966	1066.525	1055.113
32.5	955.317	965.538	979.860	997.804	1013.673	1022.712	1010.129
35.0	905.558	919.582	933.876	952.348	968.871	978.486	963.808
37.5	857.239	869.852	885.174	904.914	920.706	931.571	915.923
40.0	806.606	819.786	835.357	854.367	870.995	882.667	869.410
42.5	757.789	771.323	786.376	804.695	821.707	832.975	819.248
45.0	710.489	725.215	738.538	756.857	772.428	782.610	767.347
47.5	663.477	678.395	690.767	708.711	724.340	734.052	718.308
50.0	616.772	629.299	640.816	658.165	672.891	682.199	667.848
52.5	569.328	580.692	592.306	608.223	622.930	631.431	617.723
55.0	524.641	534.132	544.507	559.088	571.893	581.009	566.216
57.5	481.203	489.455	498.811	511.568	524.468	532.384	516.294
60.0	439.888	445.469	454.181	465.814	475.382	484.546	466.544
62.5	397.131	401.550	409.004	418.726	428.322	434.643	418.130
65.0	354.394	356.661	363.789	371.118	379.985	384.980	368.851
67.5	311.580	313.703	318.641	325.346	332.358	335.710	320.984
70.0	270.572	273.723	277.757	281.456	287.354	289.419	274.972
72.5	230.784	233.397	235.568	238.402	242.004	243.656	229.055
75.0	193.157	194.205	195.357	197.202	198.806	199.046	184.397
77.5	156.491	156.895	156.366	156.443	156.088	156.184	140.593
80.0	121.641	121.372	119.479	117.702	116.761	115.061	101.391
82.5	89.701	88.731	86.003	83.409	80.345	78.481	64.908
85.0	62.746	60.143	56.282	52.410	48.827	46.330	33.285
87.5	39.971	35.936	32.872	27.848	23.391	20.249	9.443
90.0	24.851	21.844	18.395	13.583	9.135	4.620	0.058

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	475.85	N.A.	14.80
0-30	983.31	N.A.	30.60
0-40	1559.6	N.A.	48.60
0-60	2600.57	N.A.	81.00
0-80	3150.44	N.A.	98.20
0-90	3209.81	N.A.	100.00
10-90	3084.4	N.A.	96.10
20-40	1083.75	N.A.	33.80
20-50	1644.84	N.A.	51.20
40-70	1393.03	N.A.	43.40
60-80	549.87	N.A.	17.10
70-80	197.81	N.A.	6.20
80-90	59.36	N.A.	1.80
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	3209.81	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.40
10-20	350.45
20-30	507.46
30-40	576.29
40-50	561.09
50-60	479.88
60-70	352.06
70-80	197.81
80-90	59.36
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

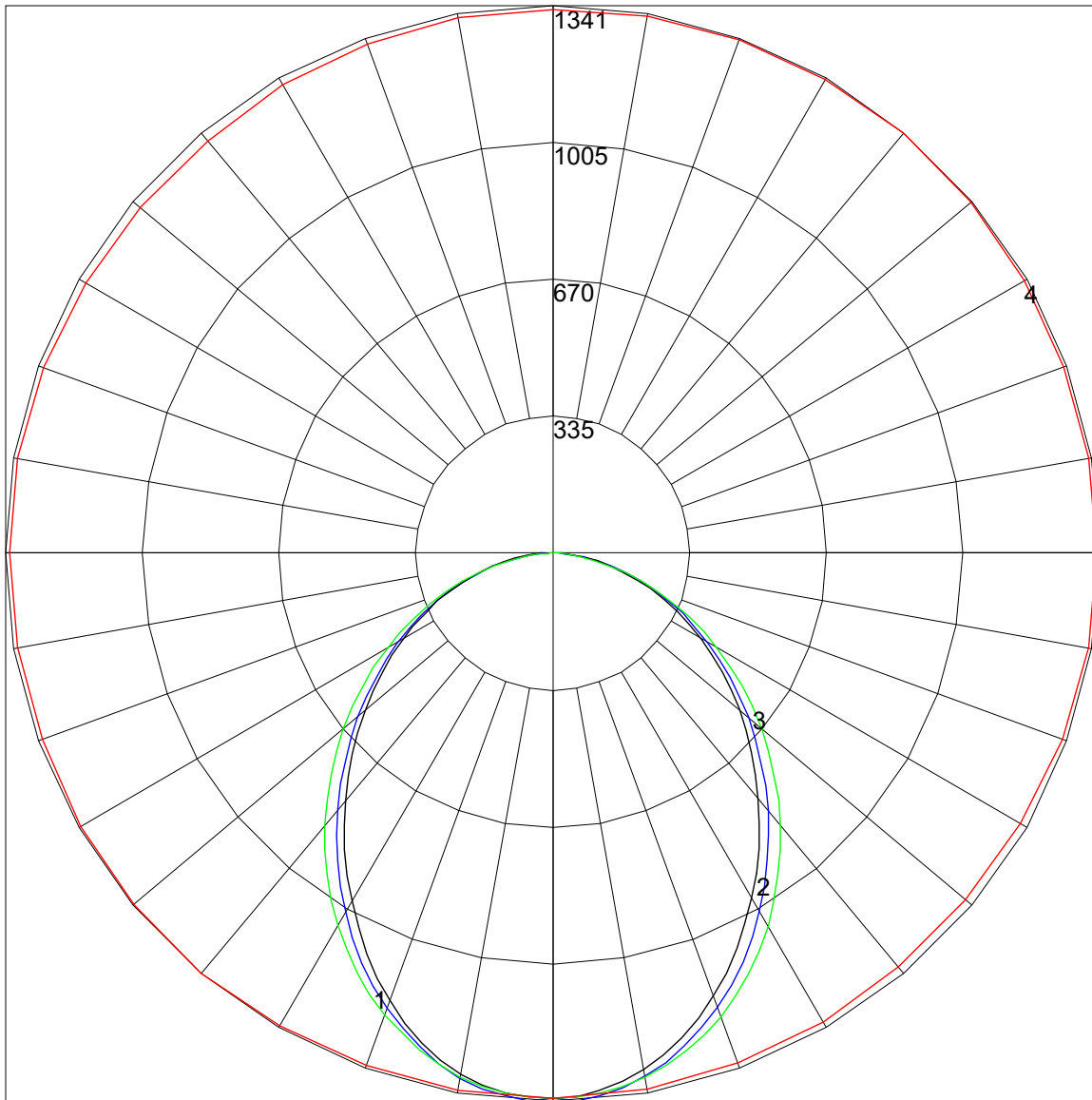
IES INDOOR REPORT
PHOTOMETRIC FILENAME : NLR48MFA40.IES

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	104	100	97	106	102	98	95	98	95	92	94	92	89	90	88	87	84
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71
3	91	81	73	67	89	79	72	66	76	70	65	74	68	64	71	67	63	60
4	84	72	63	57	81	71	63	56	68	61	56	66	60	55	64	59	54	52
5	77	65	56	49	75	63	55	49	61	54	49	59	53	48	58	52	48	45
6	71	58	50	43	70	57	49	43	56	48	43	54	47	42	52	47	42	40
7	66	53	45	39	65	52	44	38	51	43	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	34	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	36	31	43	36	31	42	35	31	41	35	31	29
10	54	41	34	28	53	41	33	28	40	33	28	39	33	28	38	32	28	26

POLAR GRAPH



Maximum Candela = 1340.652 Located At Horizontal Angle = 230, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (230 - 50) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Vertical Plane Through Horizontal Angles (0 - 180)
4 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)