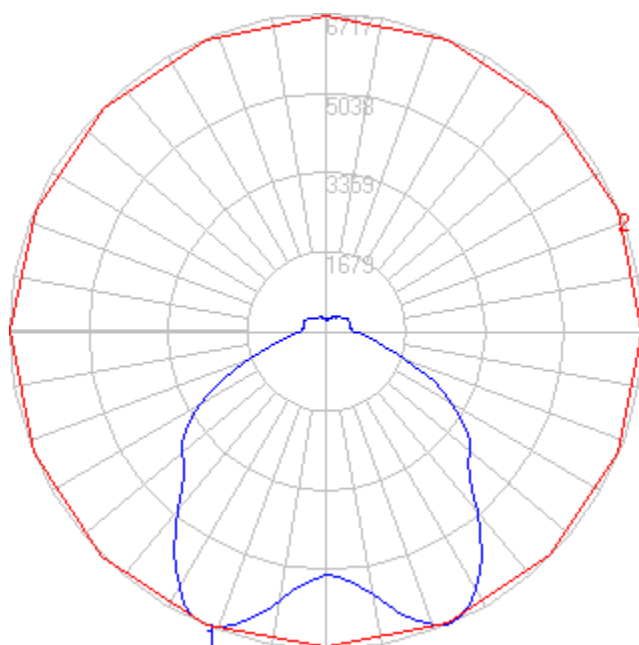




10163 US HWY 31 North, Charlevoix, MI 49720 231-547-6584

Test Report Number	05782
Date of Test	10/11/2016
Manufacturer	BETOP
Catalog Number	BT-HL200W
Test Item	BETOP LED POD WITH 350 LEDS IN A CIRCULAR PATTERN WITH FLAT CLEAR LENS, MOONGLOW S16 AND MOONGLOW 16" C.D.L.
Lamp	HL200W-350L
Operating Orientation	PENDENT
Driver Type	INTERNAL
Test Time	90 MINUTES
Ambient Temperature (C)	26.2
Stabilization Time	40 MINUTES
Power Factor	.992
Power (W)	198.16
Voltage(V)	120.02
Current(A)	1.665
Notes	DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120Vac, 60Hz)
Luminous Flux	23000.10
Luminous Efficacy	116.07
Test Distance	22.25 FEET
Test Equipment	GONIOPHOTOMETER
LAB Test Method Reference	IESNA LM-79-08
Technician	CG
Spacing Criterion(0-180)	1.58
Spacing Criterion(90-270)	1.58
Spacing Criterion(diagonal)	1.54
Sample Width(mm)	
Sample Height/Depth(mm)	
Luminous Diameter/Length(mm)	
Luminous Width(mm)	
Luminous Height/Depth(mm)	



Coefficients Of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50				30				10				0
RW70	50	30	10		70	50	30	10	50	30	10		50	30	10		50	30	10	0	
0	116	116	116	116	112	112	112	112	104	104	104		97	97	97		90	90	90		87
1	105	100	96	92	101	97	93	89	90	87	84		84	82	79		79	77	75		72
2	96	87	80	74	92	84	78	73	79	73	69		73	69	66		69	65	62		59
3	87	76	68	62	83	74	66	60	69	63	58		65	59	55		61	56	53		50
4	80	68	59	52	76	65	57	51	61	54	49		58	52	47		54	49	45		42
5	73	60	51	45	70	58	50	44	55	48	42		52	45	41		48	43	39		37
6	67	54	45	39	65	53	44	38	49	42	37		47	40	36		44	39	34		32
7	62	49	40	34	60	48	39	34	45	38	33		42	36	31		40	35	30		28
8	58	45	36	30	56	43	35	30	41	34	29		39	33	28		37	31	27		25
9	54	41	33	27	52	40	32	27	38	31	26		36	30	25		34	28	24		22
10	51	38	30	24	49	37	29	24	35	28	23		33	27	23		31	26	22		20

Zonal Lumen Summary

	Summary Zonal Lumens	Zonal Lumens-% Lamp	Zonal Lumens-% Fixture
0-30	5349.38		23.26%
0-40	8923.65		38.80%
0-60	15449.18		67.17%
0-90	20019.55		87.04%
90-110	1113.39		4.84%
90-130	2061.64		8.96%
90-150	2721.35		11.83%
90-180	2980.55		12.96%

	Zonal Lumens		Zonal Lumens
0-10	506.31	170-180	23.68
10-20	1764.04	160-170	82.01
20-30	3079.03	150-160	153.51
30-40	3574.27	140-150	226.69
40-50	3313.92	130-140	433.02
50-60	3211.61	120-130	433.02
60-70	2443.43	110-120	515.23
70-80	1347.11	100-110	547.93
80-90	779.83	90-100	565.46

Candela Table

	0.00	22.50	45.00	67.50	90.00	112.50	135.00	157.50	180.00	202.50	225.00	247.50	270.00	292.50	315.00	337.50	360.00
0.00	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6	5158.6
2.50	5195.2	5184.6	5191.8	5186.3	5183.7	5188.3	5187.2	5183.8	5216.8	5219.9	5222.4	5223.4	5227.3	5226.2	5223.7	5220.7	5195.2
5.00	5307.5	5304.1	5288.1	5290.9	5291.7	5292.5	5299.0	5293.4	5357.8	5367.9	5363.8	5368.8	5368.8	5369.0	5367.8	5364.2	5307.5
7.50	5474.0	5466.0	5460.6	5460.7	5458.6	5452.9	5452.0	5459.1	5549.1	5549.8	5543.6	5544.8	5545.2	5550.5	5540.8	5544.2	5474.0
10.00	5681.5	5671.9	5670.4	5659.1	5661.1	5648.9	5648.1	5660.5	5776.0	5768.7	5770.1	5763.4	5771.3	5769.0	5763.9	5768.3	5681.5
12.50	5942.7	5940.2	5936.0	5920.5	5924.0	5900.1	5906.4	5916.2	6043.2	6037.6	6036.9	6027.5	6043.5	6033.1	6032.9	6041.3	5942.7
15.00	6196.9	6197.7	6197.5	6191.0	6172.5	6159.3	6150.6	6169.7	6294.9	6286.6	6284.8	6284.8	6295.2	6300.3	6294.9	6293.2	6196.9
17.50	6427.2	6436.1	6435.3	6410.9	6389.9	6379.9	6369.7	6385.1	6510.6	6525.9	6509.6	6513.6	6506.4	6519.6	6503.1	6516.4	6427.2
20.00	6612.6	6615.7	6608.1	6588.0	6579.2	6554.3	6561.5	6561.7	6658.4	6658.2	6642.0	6651.4	6647.4	6646.0	6640.3	6656.6	6612.6
22.50	6698.5	6699.0	6709.2	6687.3	6675.3	6661.1	6665.7	6664.7	6708.9	6717.3	6713.5	6699.5	6694.2	6697.0	6698.7	6699.7	6698.5
25.00	6668.7	6684.1	6683.4	6678.7	6655.7	6652.0	6653.5	6642.3	6646.8	6654.4	6635.4	6618.3	6612.7	6631.8	6623.8	6642.7	6668.7
27.50	6518.9	6538.9	6555.8	6533.2	6514.4	6519.7	6512.2	6492.7	6484.4	6509.4	6500.8	6464.0	6476.9	6463.5	6459.6	6451.5	6518.9
30.00	6297.3	6310.7	6322.4	6301.6	6275.2	6278.2	6265.0	6250.3	6226.9	6246.8	6230.1	6211.5	6226.0	6236.2	6230.6	6247.6	6297.3
32.50	6062.8	6067.4	6086.4	6074.8	6053.5	6056.4	6037.1	6024.2	5952.2	5978.0	5945.0	5928.7	5952.9	5967.0	5954.6	5980.7	6062.8
35.00	5736.5	5755.5	5761.2	5748.8	5739.9	5743.9	5736.2	5709.9	5642.6	5653.6	5624.4	5608.8	5637.8	5644.4	5631.6	5644.2	5736.5
37.50	5357.1	5366.6	5382.1	5364.9	5357.9	5360.9	5369.2	5323.0	5245.9	5271.9	5222.0	5223.1	5243.9	5242.2	5231.2	5229.4	5357.1
40.00	4953.7	4970.8	4983.8	4966.7	4957.0	4971.7	4971.3	4941.8	4859.8	4878.6	4850.7	4846.2	4852.0	4841.5	4831.4	4822.8	4953.7
42.50	4575.6	4588.6	4591.2	4588.2	4568.9	4592.6	4594.5	4581.5	4519.8	4536.2	4499.5	4512.2	4497.8	4497.7	4484.6	4477.9	4575.6
45.00	4294.9	4298.6	4297.4	4299.6	4280.0	4302.1	4322.4	4311.3	4272.9	4302.5	4272.7	4270.1	4251.4	4253.5	4237.7	4224.3	4294.9
47.50	4097.3	4094.1	4099.2	4096.0	4096.5	4111.2	4134.4	4131.8	4107.7	4128.6	4101.6	4100.6	4081.9	4087.3	4063.0	4048.4	4097.3
50.00	3957.4	3963.5	3962.4	3955.6	3968.9	3979.1	4007.2	4013.6	3993.6	4015.5	3997.9	3989.6	3965.6	3959.4	3941.3	3919.9	3957.4
52.50	3800.4	3806.9	3797.2	3791.2	3803.3	3815.9	3847.5	3864.7	3819.8	3844.7	3826.3	3821.1	3785.7	3770.4	3755.9	3739.6	3800.4
55.00	3578.8	3582.6	3572.7	3571.0	3569.6	3585.4	3625.7	3638.3	3593.1	3621.8	3605.3	3597.4	3556.5	3541.6	3532.3	3515.8	3578.8
57.50	3343.4	3342.5	3339.4	3335.6	3327.6	3341.5	3381.9	3386.2	3343.7	3370.6	3356.0	3345.6	3311.3	3300.7	3288.8	3277.8	3343.4
60.00	3091.9	3088.0	3083.5	3082.2	3074.3	3081.1	3113.0	3116.7	3070.3	3100.4	3088.4	3082.9	3048.4	3039.1	3031.7	3021.6	3091.9
62.50	2811.0	2812.5	2803.9	2804.9	2792.5	2801.1	2822.7	2827.0	2763.4	2796.9	2789.5	2782.4	2747.8	2743.9	2744.8	2735.8	2811.0
65.00	2495.6	2490.6	2483.5	2496.6	2477.7	2480.6	2502.2	2506.3	2429.2	2448.6	2440.0	2436.0	2408.3	2407.2	2421.3	2411.9	2495.6
67.50	2141.6	2133.6	2138.8	2152.0	2131.8	2125.1	2147.0	2138.9	2060.7	2075.8	2061.6	2047.7	2041.6	2039.8	2055.4	2046.2	2141.6
70.00	1795.6	1791.4	1794.7	1801.5	1790.5	1782.1	1787.8	1778.8	1717.9	1731.2	1719.9	1706.8	1703.7	1708.1	1721.0	1716.4	1795.6
72.50	1531.9	1533.2	1527.0	1531.8	1523.8	1519.3	1514.5	1509.6	1459.1	1469.3	1457.7	1447.3	1447.5	1452.8	1464.8	1463.9	1531.9
75.00	1309.3	1314.0	1305.9	1310.7	1303.2	1298.3	1296.0	1285.5	1242.1	1246.8	1235.4	1231.6	1229.6	1235.8	1245.7	1246.3	1309.3
77.50	1116.8	1119.5	1118.6	1119.0	1113.0	1107.1	1106.8	1092.9	1059.1	1059.8	1049.0	1048.0	1047.0	1052.7	1060.8	1064.3	1116.8
80.00	957.1	959.3	961.1	958.5	956.1	949.2	945.7	934.2	909.5	909.7	901.5	900.8	903.1	905.6	912.5	917.8	957.1
82.50	830.2	832.1	831.7	830.4	828.6	823.8	818.3	811.0	792.6	793.6	787.6	786.9	789.2	791.9	796.8	800.2	830.2
85.00	730.3	733.0	731.5	730.9	727.8	724.1	720.8	714.9	700.7	700.0	696.6	697.3	699.1	700.8	705.2	708.0	730.3
87.50	651.9	654.3	654.0	653.2	649.1	645.3	644.4	638.7	628.7	627.8	624.9	626.0	627.8	629.2	633.3	635.9	651.9
90.00	591.7	593.5	593.6	592.4	589.9	584.8	584.6	580.2	574.2	573.0	571.5	572.6	574.0	575.4	578.6	580.8	591.7
92.50	550.3	550.8	551.0	550.0	547.7	543.3	542.6	539.9	536.3	535.7	535.0	536.5	538.0	539.1	541.5	543.5	550.3
95.00	523.5	523.8	524.1	522.9	520.8	517.3	516.2	514.5	512.7	512.5	512.5	513.8	515.3	517.6	519.4	520.6	523.5
97.50	510.0	509.9	509.8	508.9	507.0	503.3	502.5	501.2	501.8	501.5	501.9	503.4	505.2	507.3	509.1	510.0	510.0
100.00	507.9	507.3	506.9	505.5	504.3	501.3	500.1	499.4	502.5	502.8	503.2	504.8	506.7	509.0	509.8	510.0	507.9
102.50	512.6	511.6	511.4	509.8	509.1	506.6	505.4	504.7	508.8	508.9	509.8	511.3	512.9	515.0	516.3	516.4	512.6
105.00	520.2	519.3	518.9	516.7	516.1	513.7	512.6	512.1	515.8	516.1	516.6	517.9	519.8	521.9	523.0	523.2	520.2
107.50	526.3	525.8	525.2	523.6	521.8	518.9	517.9	518.2	520.2	521.1	521.2	522.3	524.0	526.4	527.6	527.9	526.3
110.00	527.2	527.3	527.1	525.8	524.0	521.0	520.0	520.1	522.4	522.9	522.8	524.1	525.9	527.1	528.6	528.2	527.2
112.50	525.0	525.7	525.4	524.5	522.5	519.8	519.3	519.5	521.0	520.8	520.9	522.3	524.1	524.8	525.5	525.2	525.0
115.00	520.6	521.6	521.4	520.5	518.3	516.1	516.0	516.6	517.1	517.0	517.1	518.0	519.4	520.2	520.4	519.7	520.6
117.50	515.5	516.8	516.3	515.1	513.6	511.5	511.2	511.8	511.6	512.0	511.0	512.2	513.3	513.9	514.4	513.7	515.5

120.00	508.0	509.9	509.2	507.9	506.1	504.3	504.2	504.7	503.3	503.7	502.4	503.1	504.3	504.9	505.5	504.7	508.0
122.50	498.0	499.9	499.4	498.6	497.1	494.9	495.3	495.4	493.5	493.3	492.1	492.9	493.4	493.6	494.0	493.7	498.0
125.00	485.1	486.8	486.2	486.2	484.4	483.0	484.0	483.7	480.7	480.4	479.4	480.7	480.6	480.0	480.1	480.3	485.1
127.50	469.7	471.2	471.0	471.3	469.8	468.9	470.1	470.5	466.6	466.0	465.1	466.3	466.6	465.6	465.1	465.0	469.7
130.00	454.0	455.6	455.3	455.4	454.6	454.1	455.8	456.0	451.7	450.9	450.5	451.8	451.9	450.6	450.3	449.6	454.0
132.50	437.9	438.9	439.0	439.3	438.9	438.8	440.7	440.9	435.7	434.5	435.0	436.2	435.9	434.8	434.4	433.8	437.9
135.00	420.3	421.2	421.5	421.6	421.6	421.7	423.5	424.0	417.5	417.0	417.7	418.6	417.7	417.3	416.9	416.9	420.3
137.50	403.9	404.4	404.5	404.6	404.3	405.0	406.9	407.3	400.6	399.7	400.4	401.2	400.7	400.0	400.1	400.1	403.9
140.00	389.0	389.0	388.5	388.4	388.8	389.7	391.3	390.8	384.9	384.1	384.4	385.1	384.9	384.8	384.5	384.8	389.0
142.50	375.1	375.2	374.5	374.1	374.9	375.2	377.0	377.2	371.0	370.2	370.5	371.2	370.6	371.0	370.6	371.0	375.1
145.00	362.8	362.3	361.6	361.4	362.0	362.3	364.0	365.3	359.2	358.7	358.6	359.0	358.8	359.4	358.8	359.4	362.8
147.50	352.0	351.7	350.9	351.4	351.6	352.2	353.4	354.5	349.7	349.0	349.3	349.4	349.5	349.2	349.0	349.4	352.0
150.00	344.2	343.4	342.7	342.7	343.1	344.0	345.3	346.4	342.6	342.1	342.2	342.6	341.9	342.0	342.1	342.4	344.2
152.50	338.0	337.1	336.8	336.7	336.8	337.4	339.1	339.9	337.8	337.3	337.4	337.6	337.1	337.1	337.1	337.6	338.0
155.00	331.3	330.6	330.3	330.2	329.7	330.6	332.1	333.3	331.9	331.9	332.5	332.6	331.8	332.0	331.6	332.7	331.3
157.50	323.4	322.9	322.3	322.4	322.0	322.5	324.0	325.8	326.3	326.1	326.4	326.4	325.8	325.8	325.5	326.2	323.4
160.00	314.6	314.2	313.1	312.9	313.6	313.0	315.1	316.5	318.0	318.6	318.6	318.6	318.2	317.1	317.4	317.9	314.6
162.50	301.8	301.8	301.1	301.8	302.3	301.8	303.2	304.6	306.8	307.2	307.1	307.6	306.6	305.4	305.7	306.5	301.8
165.00	286.3	287.1	286.4	287.5	288.4	287.3	289.0	289.7	292.2	292.7	292.8	293.2	292.7	292.2	291.2	291.6	286.3
167.50	272.4	272.8	272.5	273.3	274.5	273.6	275.0	275.7	279.4	280.3	280.3	281.2	280.6	280.5	278.2	277.9	272.4
170.00	260.4	261.0	260.0	261.8	262.2	262.7	263.5	264.7	269.7	270.5	270.5	271.3	271.0	270.6	268.7	267.4	260.4
172.50	246.9	247.8	247.8	248.8	250.6	250.6	251.4	251.6	256.2	257.3	257.2	258.2	257.7	258.4	256.2	253.7	246.9
175.00	242.0	242.6	242.3	244.1	244.6	244.7	244.7	246.1	251.6	253.3	256.1	256.7	257.5	257.3	257.1	254.2	242.0
177.50	251.8	252.7	251.8	254.8	254.9	255.2	255.9	258.5	258.7	260.6	263.7	264.3	263.9	264.3	266.1	265.5	251.8
180.00	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1	270.1