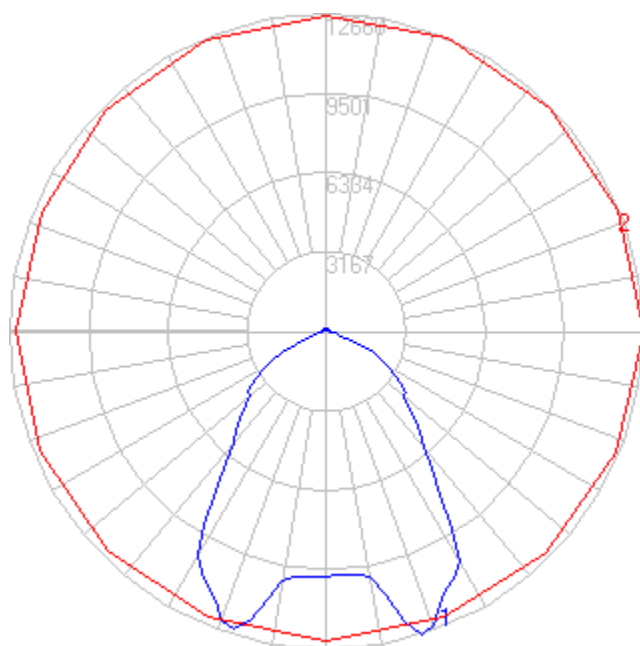




10163 US HWY 31 North, Charlevoix, MI 49720 231-547-6584

Test Report Number	05766
Date of Test	9/1/2016
Manufacturer	BETOP
Catalog Number	BT-HL200W
Test Item	BETOP LED POD WITH 350 LEDS IN A CIRCULAR PATTERN WITH FLAT CLEAR LENS, AC-FC S16
Lamp	HL200W-350L
Operating Orientation	PENDENT
Driver Type	INTERNAL
Test Time	105 MINUTES
Ambient Temperature (C)	23.7
Stabilization Time	66 MINUTES
Power Factor	.992
Power (W)	198.41
Voltage(V)	120.03
Current(A)	1.6668
Notes	DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120Vac, 60Hz)
Luminous Flux	25103.04
Luminous Efficacy	126.52
Test Distance	22.25 FEET
Test Equipment	GONIOPHOTOMETER
LAB Test Method Reference	IESNA LM-79-08
Technician	
Spacing Criterion(0-180)	
Spacing Criterion(90-270)	
Spacing Criterion(diagonal)	
Sample Width(mm)	
Sample Height/Depth(mm)	
Luminous Diameter/Length(mm)	
Luminous Width(mm)	
Luminous Height/Depth(mm)	



Coefficient of Utilization

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				
0		118	118	118	118		115	115	115	115		109	109	109		104	104	104		99	99	99	97
1		110	106	103	99		107	103	100	97		99	96	94		94	92	90		90	89	87	85
2		102	95	89	84		99	93	87	83		89	84	80		85	81	78		82	79	76	74
3		94	85	78	72		91	83	76	71		80	74	70		77	72	68		74	70	67	64
4		87	76	69	63		84	75	68	62		72	66	61		69	64	60		67	62	59	57
5		80	69	61	55		78	68	60	55		65	59	54		63	57	53		61	56	52	50
6		75	63	55	49		73	62	54	49		60	53	48		58	52	47		56	51	47	45
7		70	57	49	44		68	56	49	44		55	48	43		53	47	43		51	46	42	40
8		65	53	45	40		63	52	45	39		50	44	39		49	43	39		48	42	38	36
9		61	49	41	36		60	48	41	36		47	40	35		45	39	35		44	39	35	33
10		57	45	38	33		56	45	38	33		43	37	33		42	36	32		41	36	32	30

Zonal Lumen Summary

	Summary Zonal Lumens	Zonal Lumens-% Lamp	Zonal Lumens-% Fixture
0-30	9526.57		37.95%
0-40	14449.45		57.56%
0-60	21604.36		86.06%
0-90	24257.26		96.63%
90-110	387.27		1.54%
90-130	606.46		2.42%
90-150	777.50		3.10%
90-180	845.78		3.37%

	Zonal Lumens		Zonal Lumens
0-10	926.61	170-180	7.61
10-20	3379.06	160-170	22.03
20-30	5220.90	150-160	38.64
30-40	4922.88	140-150	69.77
40-50	3831.18	130-140	101.27
50-60	3323.73	120-130	101.27
60-70	2014.86	110-120	117.92
70-80	456.05	100-110	201.29
80-90	181.99	90-100	185.98

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	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2	9764.2
2.50	9740.4	9742.7	9749.4	9747.8	9751.2	9753.8	9749.9	9752.0	9768.3	9761.0	9752.1	9746.8	9740.7	9734.6	9733.8	9734.1	9740.7
5.00	9719.9	9734.6	9742.9	9749.0	9749.0	9747.8	9749.2	9745.1	9804.5	9793.5	9774.9	9765.6	9758.6	9753.5	9751.9	9754.3	9719.9
7.50	9762.7	9783.2	9807.7	9818.1	9826.4	9819.6	9809.5	9796.9	9881.9	9849.1	9829.1	9814.2	9812.2	9815.0	9820.5	9834.2	9762.7
10.00	9955.3	10011.8	10088.0	10103.2	10115.6	10102.5	10059.9	9998.5	10106.7	10027.4	9982.5	9964.2	9968.8	9989.9	10018.8	10067.6	9955.3
12.50	10800.7	10953.1	11114.0	11171.1	11178.8	11086.7	10972.2	10833.2	10953.5	10859.2	10752.3	10739.9	10739.2	10842.4	10913.9	11051.7	10800.7
15.00	11990.4	11981.3	12127.6	12233.1	12136.4	12048.5	11894.9	11749.6	11924.0	11795.7	11823.1	11713.3	11660.6	11831.2	12002.9	12079.7	11990.4
17.50	12667.7	12629.8	12658.2	12656.4	12579.4	12586.0	12473.3	12361.7	12451.9	12431.0	12417.3	12353.9	12331.4	12362.9	12460.0	12549.9	12667.7
20.00	12461.0	12475.2	12409.9	12362.5	12295.1	12221.6	12287.9	12263.0	12277.0	12302.7	12271.8	12207.2	12126.4	12154.8	12195.3	12289.9	12461.0
22.50	11833.9	11765.0	11864.4	11807.4	11821.9	11818.5	11820.7	11805.8	11639.1	11654.4	11754.6	11666.3	11606.8	11583.3	11716.0	11748.3	11833.9
25.00	11295.4	11329.9	11380.6	11446.6	11467.9	11445.4	11328.9	11222.8	11147.8	11093.9	11115.5	11171.9	11179.3	11220.5	11287.5	11266.9	11295.4
27.50	11115.5	11145.8	11197.7	11207.5	11213.4	11142.2	11066.4	10966.0	10887.9	10849.9	10866.4	10859.4	10870.4	10859.4	10953.0	11027.2	11115.5
30.00	10596.0	10604.1	10589.0	10534.3	10528.9	10518.4	10499.9	10475.7	10329.8	10331.1	10399.2	10341.9	10273.1	10227.4	10314.0	10399.1	10596.0
32.50	9318.7	9267.7	9228.1	9172.7	9174.6	9166.7	9251.7	9293.1	9110.2	9126.3	9124.2	9038.0	8976.9	8898.4	9005.5	9056.8	9318.7
35.00	7966.4	7969.4	7984.9	7995.0	8016.7	8022.8	8017.4	7990.3	7736.4	7694.2	7678.9	7662.6	7623.9	7585.8	7665.1	7686.5	7966.4
37.50	6874.2	6888.1	6916.1	6934.6	6935.4	6956.1	6943.2	6885.7	6611.9	6573.7	6593.6	6603.0	6558.8	6563.5	6626.7	6620.5	6874.2
40.00	5998.2	6009.1	6062.2	6099.7	6061.5	6078.0	6098.6	5990.9	5804.1	5836.9	5827.6	5823.7	5852.6	5883.3	5849.7	5860.8	5998.2
42.50	5483.7	5447.3	5491.5	5472.0	5497.7	5508.5	5472.2	5430.2	5313.1	5360.7	5361.6	5380.1	5272.3	5253.5	5352.1	5373.2	5483.7
45.00	5027.4	5058.1	5043.2	5019.0	4975.7	4994.2	5020.4	4977.9	4915.5	4924.5	4862.9	4855.7	4873.6	4866.4	4847.2	4858.2	5027.4
47.50	4455.3	4460.0	4515.6	4502.6	4506.4	4500.7	4526.3	4477.1	4347.9	4336.2	4287.8	4310.6	4299.5	4305.0	4306.7	4306.7	4455.3
50.00	4052.1	4077.9	4078.8	4051.8	4062.2	4086.6	4108.7	4086.6	4040.3	4050.0	4044.5	4042.4	4032.1	4032.3	4032.7	4017.1	4052.1
52.50	3975.3	4014.3	4019.3	3977.6	3995.7	4021.3	4047.4	4002.4	3936.3	3965.2	3922.1	3913.7	3908.6	3925.9	3935.0	3901.6	3975.3
55.00	3725.5	3743.8	3752.1	3733.4	3746.6	3774.4	3780.8	3757.8	3683.1	3686.3	3651.1	3653.0	3644.6	3656.6	3651.5	3625.4	3725.5
57.50	3330.0	3346.9	3343.1	3366.4	3371.9	3394.1	3408.1	3366.0	3284.1	3288.3	3252.2	3277.0	3271.3	3270.2	3263.5	3224.9	3330.0
60.00	2927.8	2932.2	2940.0	2948.9	2942.4	2989.3	2993.8	2966.8	2895.5	2896.2	2867.6	2897.5	2893.4	2892.2	2877.0	2859.1	2927.8
62.50	2524.8	2528.8	2526.2	2541.2	2570.1	2595.4	2604.9	2568.0	2507.9	2529.2	2497.5	2491.3	2496.7	2502.3	2485.0	2452.7	2524.8
65.00	2073.8	2039.4	2064.5	2085.8	2088.6	2090.9	2104.8	2100.2	1993.0	2010.0	1977.1	1973.2	1950.7	1946.6	1967.8	1953.9	2073.8
67.50	1423.1	1405.6	1423.1	1461.3	1465.8	1469.1	1464.4	1453.9	1315.8	1315.6	1276.6	1286.5	1274.5	1275.4	1291.0	1292.2	1423.1
70.00	828.5	834.4	840.9	871.9	851.9	858.6	870.6	863.3	801.4	791.5	770.2	775.1	764.9	773.8	773.0	774.8	828.5
72.50	592.7	598.5	601.5	614.6	616.1	624.8	625.8	625.2	591.9	583.7	558.5	561.7	559.1	561.9	562.9	561.5	592.7
75.00	434.4	438.5	448.1	459.1	469.9	477.2	470.1	450.1	422.2	416.8	400.5	403.3	401.9	400.9	398.4	402.1	434.4
77.50	307.2	308.9	313.3	324.0	327.9	334.2	327.2	312.1	295.9	292.6	280.6	281.1	277.6	282.4	279.5	279.4	307.2
80.00	226.6	228.5	231.1	234.8	235.3	239.6	236.0	231.8	223.1	219.7	213.0	216.6	213.9	214.0	214.4	213.4	226.6
82.50	182.5	184.9	186.6	186.5	185.7	188.1	187.1	188.3	186.1	186.0	182.5	182.6	181.3	182.5	182.4	178.4	182.5
85.00	161.1	163.0	164.6	164.9	164.8	164.7	163.9	168.1	171.1	174.0	170.7	170.7	170.2	171.1	168.7	163.1	161.1
87.50	152.5	152.4	154.5	156.6	155.4	155.1	155.7	161.5	167.6	169.8	166.6	166.2	166.5	167.5	164.7	157.5	152.5
90.00	149.4	148.0	150.9	151.3	154.7	150.3	153.8	160.4	173.0	174.2	169.1	168.1	168.2	167.7	163.3	155.0	149.4
92.50	142.1	141.4	139.7	141.7	140.4	144.3	151.3	163.5	172.2	173.8	168.3	162.6	162.0	161.4	159.5	148.6	142.1
95.00	159.2	157.3	155.7	153.1	158.7	150.5	156.8	184.0	186.4	193.1	191.8	184.8	180.8	181.9	176.8	167.9	159.2
97.50	153.6	145.8	140.4	141.4	138.5	152.0	151.5	169.8	183.3	184.3	181.1	181.7	165.9	166.1	164.9	154.4	153.6
100.00	165.5	165.5	169.7	164.0	163.0	165.2	178.1	191.6	202.3	206.6	194.8	200.8	201.0	197.5	187.8	172.2	165.5
102.50	167.2	157.7	165.8	169.4	158.8	162.6	166.7	186.3	191.6	196.6	197.4	207.2	217.5	194.2	199.2	187.2	167.2
105.00	172.4	168.0	172.3	172.2	170.7	175.6	183.5	197.4	197.4	207.2	210.2	210.8	214.3	215.4	200.1	194.4	172.4
107.50	176.4	175.2	175.4	169.1	177.5	191.7	196.2	201.4	196.7	198.4	209.6	211.9	224.3	206.5	201.6	196.0	176.4
110.00	157.9	167.7	161.1	151.1	165.6	185.0	191.5	185.0	194.0	200.6	199.1	196.3	202.5	194.4	187.1	171.9	157.9
112.50	124.0	132.1	120.4	124.0	128.6	122.2	126.7	128.8	162.3	153.4	162.6	149.3	144.1	152.4	145.7	133.5	124.0
115.00	112.1	111.6	107.5	109.1	112.2	108.9	111.6	117.3	122.4	129.2	133.5	130.4	127.9	129.3	125.4	118.2	112.1
117.50	110.2	109.4	107.0	107.0	109.2	108.7	110.6	115.9	120.7	122.2	124.7	123.9	123.6	123.5	121.9	116.4	110.2

120.00	111.7	110.5	108.3	107.8	109.7	109.5	112.6	115.6	119.6	122.0	123.0	122.4	122.1	124.2	121.0	116.8	111.7
122.50	111.2	110.2	108.2	108.3	109.5	108.9	112.6	115.0	118.7	119.1	119.4	120.0	119.9	121.3	120.4	116.2	111.2
125.00	110.7	109.1	108.2	109.3	109.4	108.1	111.1	113.4	116.4	116.0	115.7	116.1	116.6	117.6	116.5	114.4	110.7
127.50	109.6	108.7	108.5	109.7	109.3	107.5	109.4	111.4	112.1	111.3	110.1	110.7	110.5	112.3	111.2	110.8	109.6
130.00	112.4	112.7	113.4	113.6	113.9	111.2	112.8	115.8	115.4	115.2	115.7	115.1	114.4	115.4	115.2	114.4	112.4
132.50	117.0	118.4	118.4	118.3	117.5	117.3	117.9	121.0	117.5	118.6	120.7	120.3	119.8	119.2	120.2	118.7	117.0
135.00	119.1	120.4	119.7	119.4	119.4	118.5	120.1	121.9	116.9	118.0	119.2	119.7	119.2	117.7	119.1	117.9	119.1
137.50	119.9	121.1	122.3	121.1	120.5	119.7	121.0	122.9	117.2	117.9	118.5	119.8	119.8	117.9	118.6	117.9	119.9
140.00	119.5	119.0	121.7	120.4	118.8	116.8	119.1	122.0	115.1	115.5	116.7	117.5	117.5	116.4	116.6	117.3	119.5
142.50	117.2	116.7	118.8	117.0	115.4	112.7	116.6	119.6	112.7	112.3	114.2	114.6	114.0	113.9	114.4	114.6	117.2
145.00	113.3	112.9	113.6	111.8	110.5	107.8	111.7	114.0	108.0	108.2	110.5	110.4	109.6	110.8	111.1	111.3	113.3
147.50	106.7	106.2	105.0	104.1	102.7	100.2	103.5	104.4	99.2	99.1	101.1	101.2	101.7	102.0	102.7	102.7	106.7
150.00	96.8	96.7	96.0	94.9	93.3	91.7	93.4	95.2	89.8	89.6	92.0	90.8	92.0	92.4	92.9	93.4	96.8
152.50	90.7	89.7	89.4	88.3	87.4	85.7	86.9	88.1	84.6	84.6	86.2	85.0	86.7	87.4	87.1	87.8	90.7
155.00	85.9	85.6	84.9	84.1	83.0	82.2	82.6	84.0	81.7	81.3	82.0	81.4	82.4	83.4	83.9	84.4	85.9
157.50	83.7	83.3	82.8	82.1	80.6	79.1	79.6	80.8	80.1	79.5	79.5	79.6	80.2	80.9	81.7	82.0	83.7
160.00	81.8	82.2	81.7	80.6	78.8	78.0	78.1	79.6	78.8	78.5	78.7	78.3	78.9	79.2	79.8	80.6	81.8
162.50	80.9	81.1	80.4	79.5	77.5	76.7	77.6	78.8	77.8	78.2	77.8	77.1	77.5	78.0	78.4	79.1	80.9
165.00	80.0	80.3	79.4	77.8	76.7	76.1	76.5	78.1	77.9	78.1	77.4	76.8	77.1	76.7	77.1	77.5	80.0
167.50	79.5	79.0	78.0	77.0	76.2	75.8	76.5	78.3	78.3	78.5	77.9	77.0	76.9	76.6	76.3	77.3	79.5
170.00	79.8	78.6	77.8	76.6	76.0	76.1	77.2	79.0	78.7	79.4	78.9	78.0	78.0	77.3	77.2	77.8	79.8
172.50	79.3	78.2	77.4	76.0	75.7	75.8	77.3	78.5	78.1	78.7	78.5	78.0	77.7	77.3	77.1	77.7	79.3
175.00	80.9	79.2	78.7	78.1	78.0	78.6	79.2	80.2	80.4	81.0	81.6	81.6	81.7	80.9	80.5	80.8	80.9
177.50	82.1	81.9	81.8	82.6	83.0	83.5	84.2	84.2	82.9	83.6	84.4	84.5	84.3	83.8	83.5	83.3	82.1
180.00	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0