

Penn XL

Client:
LumCAT:
Luminaire:
Report No:
Ballast type:
Test No: Voltage(V): 220.23
LampCAT: Current(A): 0.6510
Lamp flux(lm): -1.0 Power (W): 129.48
Number of Lamps: 1 PF: 0.9027
Length(mm): 0 Width(mm): 0
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 4692.40, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 36.24
Central intensity(cd): 11532.070, Maximum intensity(cd): 12419.100
Angle of maximum intensity: C=90.0 $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=31.2
[C90/270]Total=31.0
Field angle(10%Imax): [C0/180]Total=55.0
[C90/270]Total=55.5
Maximum s/h(1/2): C0_180=0.47 C90_270=0.49
Maximum s/h(1/4): C0_180=0.48 C90_270=0.50
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 0.00%
Up flux rate of LUM(%): 0.14%
Down flux rate of LUM(%): 99.86%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.089%

Zonal flux distribution table

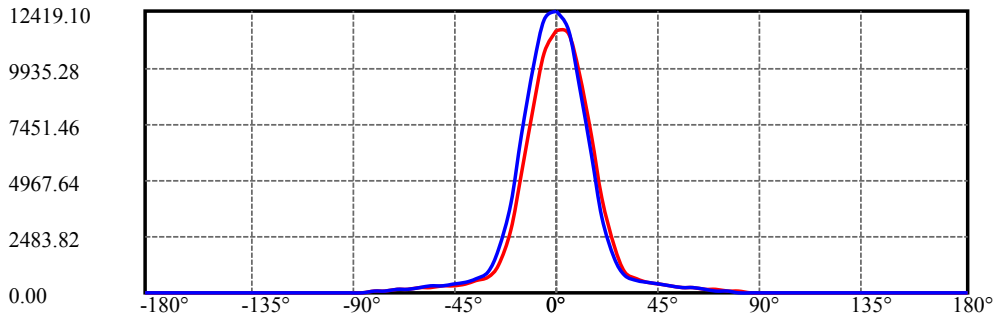
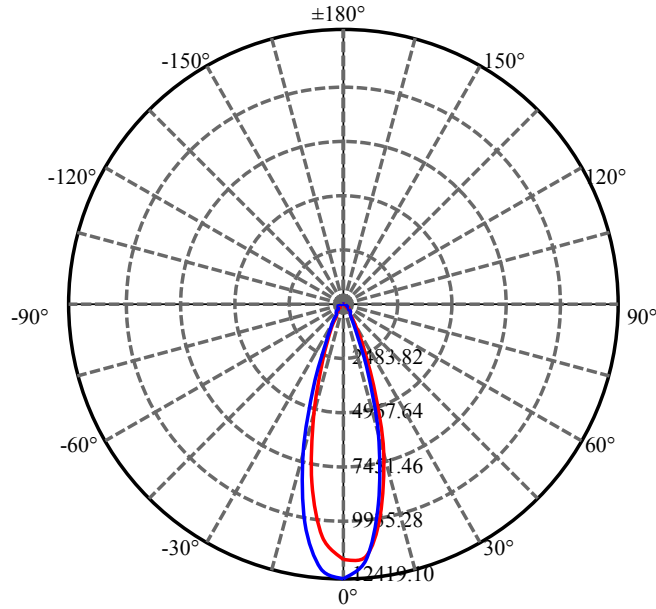
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11754.623	0.000	0	0.00%	0.00%
5.0	11170.192	274.060	274.06	0.00%	5.84%
10.0	9106.092	725.346	999.406	0.00%	21.30%
15.0	6153.901	905.212	1904.619	0.00%	40.59%
20.0	3456.996	792.073	2696.691	0.00%	57.47%
25.0	1651.822	535.821	3232.512	0.00%	68.89%
30.0	833.698	314.545	3547.057	0.00%	75.59%
35.0	550.109	203.775	3750.832	0.00%	79.93%
40.0	438.925	165.013	3915.845	0.00%	83.45%
45.0	357.910	147.540	4063.385	0.00%	86.60%
50.0	296.304	132.193	4195.579	0.00%	89.41%
55.0	243.021	117.267	4312.846	0.00%	91.91%
60.0	198.987	102.169	4415.015	0.00%	94.09%
65.0	157.771	86.729	4501.743	0.00%	95.94%
70.0	127.048	72.118	4573.861	0.00%	97.47%
75.0	90.741	56.926	4630.788	0.00%	98.69%
80.0	47.607	37.018	4667.806	0.00%	99.48%
85.0	9.262	15.453	4683.258	0.00%	99.81%
90.0	0.093	2.561	4685.82	0.00%	99.86%
95.0	0.066	0.044	4685.863	0.00%	99.86%
100.0	0.106	0.047	4685.91	0.00%	99.86%
105.0	0.080	0.050	4685.96	0.00%	99.86%
110.0	0.119	0.052	4686.012	0.00%	99.86%
115.0	0.251	0.094	4686.105	0.00%	99.87%
120.0	0.291	0.132	4686.237	0.00%	99.87%
125.0	0.344	0.147	4686.384	0.00%	99.87%
130.0	0.529	0.190	4686.574	0.00%	99.88%
135.0	0.715	0.251	4686.825	0.00%	99.88%
140.0	1.099	0.336	4687.161	0.00%	99.89%
145.0	1.760	0.477	4687.638	0.00%	99.90%
150.0	2.739	0.662	4688.3	0.00%	99.91%
155.0	3.943	0.846	4689.146	0.00%	99.93%
160.0	5.107	0.949	4690.095	0.00%	99.95%
165.0	6.086	0.923	4691.018	0.00%	99.97%
170.0	6.563	0.750	4691.768	0.00%	99.99%
175.0	6.536	0.469	4692.237	0.00%	100.00%
180.0	6.827	0.160	4692.396	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	3547.06	N.A.	75.59%
0-40	3915.84	N.A.	83.45%
0-60	4415.01	N.A.	94.09%
0-90	4685.82	N.A.	99.86%
0-120	4686.24	N.A.	99.87%
0-180	4692.40	N.A.	100.00%
60-90	270.80	N.A.	5.77%
90-120	0.42	N.A.	0.01%
90-130	0.75	N.A.	0.02%
90-150	2.48	N.A.	0.05%
90-180	6.42	N.A.	0.14%
0-35.09	3753.92	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	999.41
10-20	1697.29
20-30	850.37
30-40	368.79
40-50	279.73
50-60	219.44
60-70	158.85
70-80	93.94
80-90	18.01
90-100	0.09
100-110	0.10
110-120	0.23
120-130	0.34
130-140	0.59
140-150	1.14
150-160	1.79
160-170	1.67
170-180	0.47



C0/C180: —

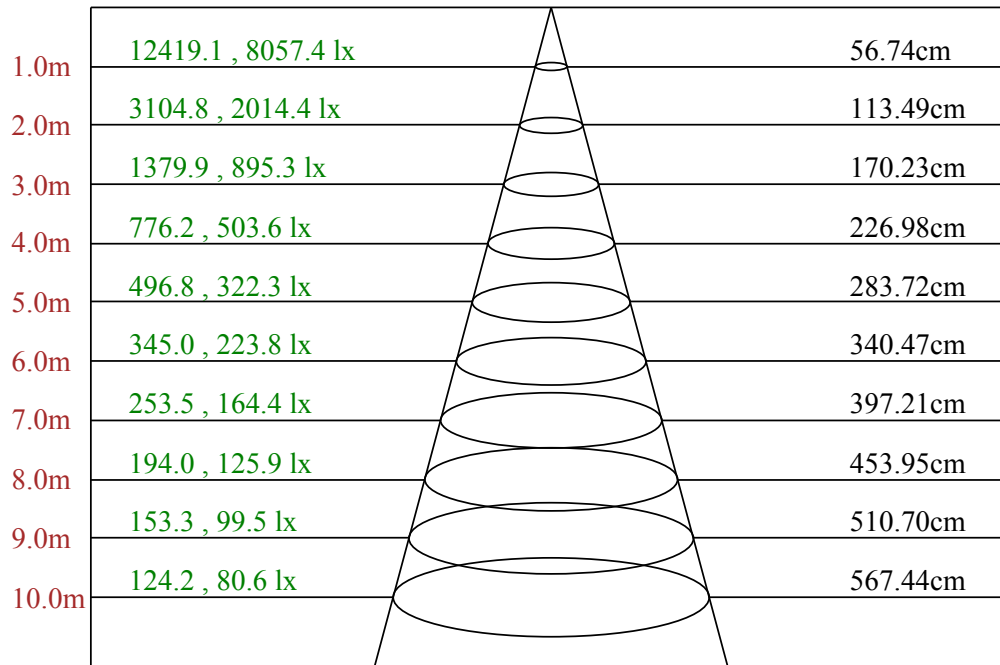
C90/C270: —

Field angle(10%Imax):C0/180Left:25.9 Right:29.1

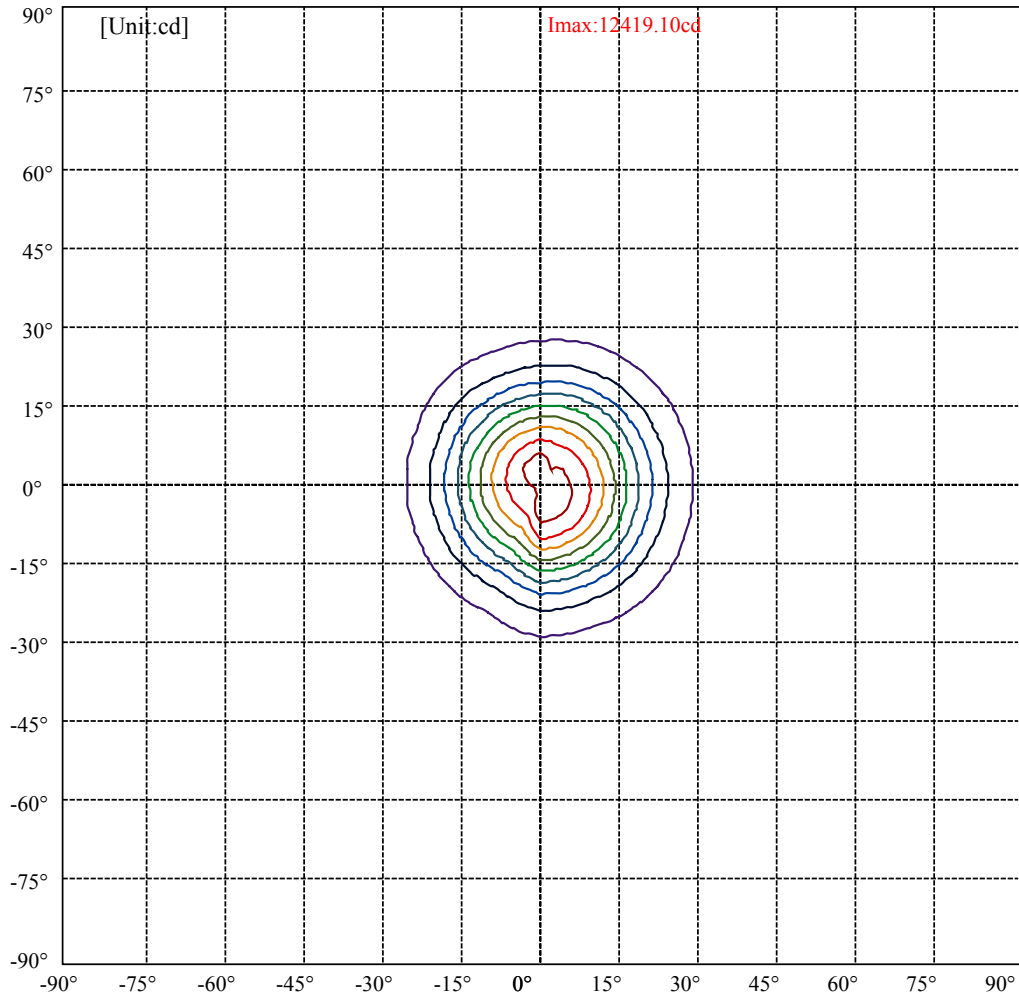
:C90/270Left:28.5 Right:27.0

Beam Angle(50%Imax):C0/180Left:14.1 Right:17.1

:C90/270Left:16.2 Right:14.8



Max , Ave Beam angle of C90 plane 31.68



(10%Imax) 1241.91	—
(20%Imax) 2483.82	—
(30%Imax) 3725.73	—
(40%Imax) 4967.64	—
(50%Imax) 6209.55	—
(60%Imax) 7451.46	—
(70%Imax) 8693.37	—
(80%Imax) 9935.28	—
(90%Imax) 11177.2	—

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	11532.07	11428.34	9711.43	6916.96	4168.63	2048.86	957.11	584.51	453.04
22.5	11396.58	11269.56	9573.82	6779.35	4076.97	1995.51	951.60	573.29	445.85
45.0	11294.96	11172.18	9436.22	6709.49	3919.25	1894.10	896.56	560.17	443.09
67.5	11314.02	11055.74	9349.42	6463.91	3714.53	1825.51	864.38	541.32	422.98
90.0	12419.10	11580.76	9161.00	6078.61	3301.08	1543.95	789.44	541.96	438.65
112.5	12224.34	11275.91	8898.49	5794.93	3112.66	1448.68	773.98	529.26	429.76
135.0	12065.56	11083.26	8644.45	5570.53	3038.57	1414.81	758.11	524.39	418.54
157.5	11790.35	10755.12	8472.97	5439.27	2818.40	1285.67	709.84	513.38	416.42
180.0	11532.07	10581.53	8223.16	5242.39	2748.53	1251.80	682.53	504.70	410.28
202.5	11396.58	10401.58	8117.31	5166.18	2672.32	1222.16	685.28	499.20	404.56
225.0	11294.96	10335.95	8096.14	5166.18	2706.19	1277.20	699.25	508.30	414.51
247.5	11314.02	10414.28	8146.95	5257.21	2814.16	1355.53	722.12	507.24	409.64
270.0	12419.10	12008.40	10052.27	6921.19	3954.81	1934.96	957.11	608.43	492.21
292.5	12224.34	11870.80	9948.54	6908.49	4029.76	1898.34	931.07	597.21	480.78
315.0	12065.56	11834.81	9992.99	7020.69	4091.15	2013.93	973.83	606.74	471.67
337.5	11790.35	11654.86	9872.32	7027.04	4144.92	2018.16	986.96	601.66	470.83
360.0	11532.07	11428.34	9711.43	6916.96	4168.63	2048.86	957.11	584.51	453.04
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	359.47	291.51	236.47	194.56	152.21	122.36	91.67	51.87	13.13
22.5	359.89	291.51	236.90	193.92	153.06	120.04	88.70	50.39	11.43
45.0	357.35	286.43	230.54	186.09	146.92	114.32	83.62	44.46	8.26
67.5	336.82	273.31	225.04	183.33	144.38	112.63	80.45	41.92	7.83
90.0	361.16	301.68	244.52	198.15	150.52	115.38	74.52	30.49	2.54
112.5	355.45	297.44	239.44	195.61	149.89	116.65	80.02	35.78	2.54
135.0	339.99	285.80	235.20	194.56	152.00	121.94	82.35	37.90	2.54
157.5	343.17	286.43	234.78	193.92	152.85	122.15	82.56	39.38	3.39
180.0	341.26	290.03	240.71	199.85	156.87	128.50	88.07	42.98	6.14
202.5	333.86	286.22	236.05	194.77	154.97	127.66	87.01	45.94	7.41
225.0	339.57	284.32	234.14	191.80	155.60	128.72	89.76	45.30	6.35
247.5	337.24	283.89	235.63	193.50	158.78	132.10	92.51	46.58	8.68
270.0	409.43	345.71	287.07	232.45	187.78	152.00	110.09	60.76	15.24
292.5	395.88	329.83	276.06	224.41	182.06	149.25	113.90	66.05	17.57
315.0	375.98	303.37	249.17	207.47	168.73	140.15	109.03	65.20	19.69
337.5	380.01	303.37	246.63	199.42	157.72	128.93	97.60	56.74	15.45
360.0	359.47	291.51	236.47	194.56	152.21	122.36	91.67	51.87	13.13
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.21	0.21	0.21	0.21	0.42	0.42
22.5	0.21	0.21	0.42	0.00	0.21	0.42	0.42	0.42	0.64
45.0	0.00	0.21	0.21	0.21	0.21	0.42	0.42	0.42	0.42
67.5	0.21	0.21	0.00	0.21	0.21	0.21	0.21	0.42	0.64
90.0	0.00	0.00	0.21	0.00	0.00	0.21	0.21	0.42	0.64
112.5	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.42	0.64
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.42
157.5	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.64
180.0	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.42
202.5	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.42
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.42
247.5	0.00	0.00	0.00	0.00	0.00	0.21	0.21	0.21	0.42
270.0	0.21	0.21	0.21	0.21	0.21	0.64	0.64	0.42	0.64
292.5	0.42	0.00	0.21	0.21	0.42	0.42	0.42	0.42	0.64
315.0	0.21	0.00	0.21	0.21	0.21	0.21	0.42	0.42	0.42
337.5	0.21	0.21	0.21	0.00	0.21	0.42	0.42	0.42	0.64
360.0	0.00	0.00	0.00	0.21	0.21	0.21	0.21	0.42	0.42

Intensity data(cd)

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C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.64	1.06	1.48	2.54	3.60	4.87	5.72	6.56	6.56
22.5	0.64	1.06	1.69	2.54	3.60	4.66	5.93	6.35	6.56
45.0	0.64	1.06	1.69	2.33	3.60	4.66	5.93	6.56	6.35
67.5	0.85	1.06	1.69	2.75	4.02	4.87	5.93	6.56	6.56
90.0	0.85	1.06	1.91	3.18	4.45	5.29	6.56	6.77	6.99
112.5	0.85	1.06	1.69	2.96	4.02	5.50	6.35	6.77	6.77
135.0	0.64	1.06	1.91	2.75	4.02	5.50	6.14	6.56	6.35
157.5	0.64	1.06	1.69	2.96	4.23	5.08	6.14	6.14	6.35
180.0	0.64	1.27	1.91	2.75	4.02	5.29	6.14	6.56	6.35
202.5	0.64	1.06	1.69	2.96	4.23	5.08	5.93	6.35	6.35
225.0	0.64	1.06	1.91	2.75	4.02	5.08	5.93	6.35	6.14
247.5	0.64	1.06	1.91	2.75	4.02	5.08	5.93	6.35	6.14
270.0	0.85	1.48	1.91	3.18	4.23	5.50	6.77	7.41	7.41
292.5	0.64	1.27	1.69	2.33	3.81	5.08	6.14	6.77	6.77
315.0	0.85	0.85	1.69	2.75	3.60	5.29	6.14	6.56	6.56
337.5	0.85	1.06	1.69	2.33	3.60	4.87	5.72	6.35	6.35
360.0	0.64	1.06	1.48	2.54	3.60	4.87	5.72	6.56	6.56

C/γ(°)	180.0
0.0	6.77
22.5	6.56
45.0	6.56
67.5	6.56
90.0	7.41
112.5	6.99
135.0	6.99
157.5	6.77
180.0	6.77
202.5	6.56
225.0	6.56
247.5	6.56
270.0	7.41
292.5	6.99
315.0	6.99
337.5	6.77
360.0	6.77