

Indoor Distribution Test Report

Spectrum Lighting Inc.

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Spectrum Lighting Photometric Lab

Luminaire

C1320PC160L35KMDDO10XTSGHMMW

13" round x 20" high PC series Stage Pro luminaire for auditorium and area lighting.

Test Number

SP-R990

Test Date

7/9/2025

The results contained in this report pertain only to this IES file.

Summary of Results

Power

Input Watts	111.45 W
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Lumen Output

Output Lumens	12339
Efficacy	110.71 lm/W

Luminous Dimensions

0° - 180° Size	-1
90° - 270° Size	-1
Height	0

Spacing Criterion

Two luminaires, plane 0°	0.37
Two luminaires, plane 90°	0.43
Four luminaires	0.43

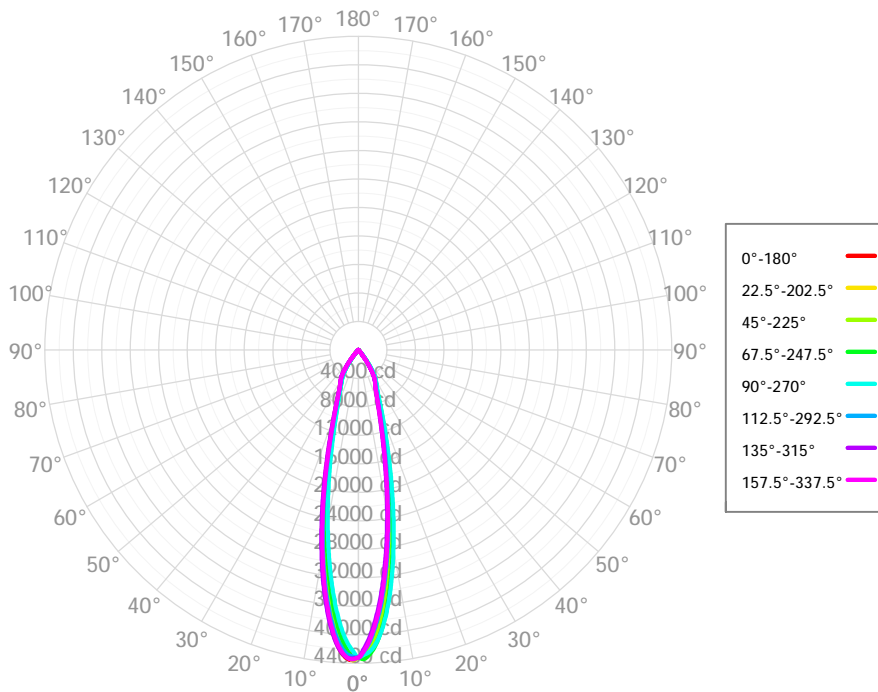
Full Beam Angle

0° - 180°	24°
90° - 270°	24°

IES File Header Contents

Keyword	Value
TEST	SP-R990
TESTLAB	Spectrum Lighting Photometric Lab. VLS-245-981
MANUFAC	Spectrum Lighting
TESTDATE	7/9/2025
ISSUEDATE	7/9/2025
LUMCAT	C1320PC160L35KMDDO10XTSGHMMW
LUMINAIRE	13" round x 20" high PC series Stage Pro luminaire for auditorium and area lighting.
DISTRIBUTION	Beam Angle 24.1
OTHER	CCT 3358 CRI 83.4 R9 7.8
OTHER	Total Luminaire wattage is approximate
OTHER	This report is prepared by Spectrum Lighting

Candela Polar Plot



Zonal Lumen Summary

Zone	Lumens	% Fixture	Zone	Lumens	% Fixture
0.00° - 10.00°	3247.71	26.32%	90.00° - 100.00°	0.00	0.00%
10.00° - 20.00°	4396.99	35.63%	100.00° - 110.00°	0.00	0.00%
20.00° - 30.00°	2883.11	23.37%	110.00° - 120.00°	0.00	0.00%
30.00° - 40.00°	1653.26	13.40%	120.00° - 130.00°	0.00	0.00%
40.00° - 50.00°	116.09	0.94%	130.00° - 140.00°	0.00	0.00%
50.00° - 60.00°	12.51	0.10%	140.00° - 150.00°	0.00	0.00%
60.00° - 70.00°	9.72	0.08%	150.00° - 160.00°	0.00	0.00%
70.00° - 80.00°	9.48	0.08%	160.00° - 170.00°	0.00	0.00%
80.00° - 90.00°	10.12	0.08%	170.00° - 180.00°	0.00	0.00%
0.00° - 90.00°	12339.00	100.00%	0.00° - 180.00°	12339.00	100.00%

Candela Distribution

	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°	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44	43191.44
1.00°	42349.06	42976.69	43099.84	43408.77	42827.07	43086.54	43304.07	43449.37	43538.12	43575.54	43534.39	43184.29	42277.02	42351.70	42024.76	42346.85	42349.06
2.00°	41117.36	42026.11	42261.85	42856.74	42473.18	42784.66	43236.13	43258.30	43398.50	43122.85	43023.80	42310.74	41311.72	41319.86	40729.46	41125.61	41117.36
3.00°	39542.03	40694.05	41058.70	41925.45	41735.46	42042.59	42672.73	42571.58	42746.63	42170.68	41998.04	40981.64	39930.06	39858.75	39084.13	39547.54	39542.03
4.00°	37710.84	39059.45	39529.80	40621.54	40619.00	40859.19	41661.71	41442.04	41636.91	40771.95	40530.63	39285.92	38208.63	38100.96	37186.38	37699.06	37710.84
5.00°	35683.65	37191.40	37734.46	38988.05	39141.70	39328.45	40241.45	39919.34	40114.33	39010.32	38731.91	37308.65	36236.19	36111.23	35094.21	35650.42	35683.65
6.00°	33517.14	35128.23	35691.44	37095.66	37329.07	37511.50	38484.07	38068.44	38246.41	36986.88	36685.79	35136.82	34083.61	33919.79	32848.08	33457.84	33517.14
7.00°	31225.22	32903.97	33450.02	34982.05	35330.90	35465.86	36484.78	36001.50	36145.40	34797.90	34466.71	32856.38	31791.42	31584.02	30478.22	31136.13	31225.22
8.00°	28857.51	30568.28	31112.35	32688.45	33127.07	33256.22	34326.35	33763.85	33905.50	32485.64	32127.48	30479.28	29431.43	29182.03	28064.02	28729.25	28857.51
9.00°	26453.13	28178.64	28717.45	30285.68	30817.55	30935.94	32036.93	31387.53	31532.15	30090.21	29756.45	28061.20	27055.03	26773.83	25633.86	26296.30	26453.13
10.00°	24052.37	25770.26	26295.32	27862.00	28394.50	28549.48	29624.93	28964.32	29132.70	27675.13	27322.84	25657.26	24699.96	24394.17	23242.87	23896.06	24052.37
11.00°	21685.51	23365.09	23891.16	25411.73	25997.24	26140.28	27204.03	26535.39	26720.03	25281.20	24930.21	23301.15	22395.23	22043.06	20904.16	21523.56	21685.51
12.00°	19459.72	21033.47	21577.79	23040.68	23665.68	23740.78	24779.19	24126.56	24336.20	22918.95	22586.63	21018.97	20219.02	19811.39	18714.06	19258.96	19459.72
13.00°	17379.42	18860.25	19389.01	20768.01	21364.29	21409.42	22407.48	21777.56	22011.97	20638.78	20338.81	18862.85	18175.02	17775.17	16704.46	17183.74	17379.42
14.00°	15482.35	16845.05	17370.71	18638.30	19204.29	19216.26	20091.25	19520.42	19752.58	18451.16	18190.98	16860.41	16268.38	15909.11	14885.76	15304.79	15482.35
15.00°	13773.49	15021.46	15540.81	16696.72	17202.57	17160.09	17923.42	17397.36	17617.16	16426.56	16200.28	15036.60	14521.31	14199.25	13293.03	13632.15	13773.49
16.00°	12298.34	13403.39	13902.54	14931.13	15403.23	15276.16	15954.12	15459.84	15676.89	14603.44	14412.49	13396.08	12996.09	12709.32	11907.13	12180.42	12298.34
17.00°	11031.23	11991.39	12442.11	13354.56	13779.81	13609.47	14192.95	13751.63	13934.20	12991.54	12841.21	11964.21	11620.40	11401.67	10706.61	10928.26	11031.23
18.00°	9923.86	10767.46	11168.93	11961.75	12318.21	12153.51	12637.89	12264.53	12417.23	11589.27	11459.97	10734.68	10481.17	10273.50	9663.07	9850.92	9923.86
19.00°	8982.12	9706.68	10036.78	10739.50	11050.26	10894.54	11315.00	10995.03	11106.28	10394.04	10277.46	9652.19	9459.20	9293.57	8776.09	8925.58	8982.12
20.00°	8187.05	8789.28	9089.48	9661.29	9939.28	9813.13	10177.52	9890.87	9988.22	9357.31	9270.84	8755.52	8606.98	8458.48	8012.02	8135.43	8187.05
21.00°	7497.33	8004.65	8248.39	8733.78	8981.62	8855.84	9194.80	8963.88	9027.74	8491.38	8424.40	8020.85	7889.26	7744.48	7347.57	7451.10	7497.33
22.00°	6905.56	7335.58	7525.94	7935.57	8137.22	8056.80	8360.43	8165.38	8211.44	7756.87	7710.40	7384.39	7268.90	7138.43	6787.34	6862.55	6905.56
23.00°	6424.50	6778.63	6944.69	7254.43	7418.32	7375.17	7643.62	7478.80	7516.06	7134.36	7098.12	6834.43	6736.44	6628.86	6318.48	6363.24	6424.50
24.00°	6017.51	6320.97	6468.82	6697.05	6837.17	6798.58	7023.45	6892.11	6921.16	6590.20	6558.44	6346.60	6304.04	6195.78	5921.10	5952.48	6017.51
25.00°	5695.24	5949.53	6082.32	6263.15	6359.67	6317.44	6494.71	6402.33	6417.45	6122.99	6088.32	5933.80	5920.41	5835.86	5605.07	5625.70	5695.24
26.00°	5434.78	5641.00	5763.46	5910.01	5978.31	5908.38	6048.82	5997.06	6001.17	5735.80	5698.58	5583.78	5585.85	5538.95	5353.24	5376.58	5434.78
27.00°	5218.97	5381.58	5484.30	5616.00	5666.83	5589.87	5691.66	5674.26	5664.84	5429.03	5374.46	5290.80	5285.97	5277.17	5149.12	5168.64	5218.97
28.00°	4999.89	5147.43	5247.95	5355.77	5406.06	5333.50	5418.13	5413.75	5388.81	5170.85	5098.53	5023.05	5003.40	5008.59	4924.45	4966.82	4999.89
29.00°	4754.24	4894.06	4989.67	5113.29	5145.37	5108.65	5197.24	5195.80	5158.17	4930.97	4850.82	4763.01	4730.66	4727.90	4654.48	4741.27	4754.24
30.00°	4455.78	4590.62	4673.40	4847.47	4870.33	4869.03	4998.79	4989.12	4929.75	4697.66	4616.41	4518.41	4444.30	4426.22	4342.70	4447.86	4455.78
31.00°	4092.61	4231.43	4311.64	4527.00	4583.65	4611.09	4768.71	4747.12	4675.11	4448.13	4388.96	4243.99	4124.93	4084.37	3967.51	4082.22	4092.61
32.00°	3679.63	3844.10	3924.88	4165.81	4270.01	4333.35	4510.05	4451.94	4373.24	4148.48	4100.45	3900.81	3756.44	3691.61	3530.60	3643.50	3679.63
33.00°	3228.23	3439.47	3526.84	3781.84	3899.86	4002.64	4190.83	4090.39	4023.74	3777.22	3717.13	3489.73	3336.61	3253.29	3073.42	3192.32	3228.23
34.00°	2765.56	3009.35	3121.43	3387.55	3513.33	3606.08	3796.87	3674.70	3619.70	3360.21	3287.51	3032.92	2884.30	2791.10	2609.51	2716.31	2765.56
35.00°	2296.68	2550.90	2685.39	2954.64	3088.55	3158.87	3364.28	3220.27	3185.39	2913.91	2836.85	2564.47	2420.53	2314.89	2146.58	2240.66	2296.68
36.00°	1836.68	2103.72	2208.70	2484.88	2641.66	2690.90	2900.78	2756.05	2716.92	2458.63	2370.34	2103.92	1961.37	1860.24	1699.70	1788.60	1836.68
37.00°	1403.97	1651.09	1726.30	2023.21	2167.20	2228.95	2391.48	2282.59	2250.79	2008.86	1944.69	1670.67	1532.13	1417.08	1283.97	1350.13	1403.97
38.00°	1007.07	1235.17	1255.78	1569.04	1725.47	1780.54	1887.69	1821.42	1805.09	1579.40	1530.41	1286.21	1152.25	1041.84	903.17	955.58	1007.07
39.00°	671.97	869.07	826.25	1149.43	1318.38	1361.48	1387.76	1388.79	1373.12	1192.94	1156.60	941.70	837.76	729.74	601.04	629.37	671.97
40.00°	424.11	575.81	489.47	785.07	971.38	993.47	940.65	986.38	1003.93	870.44	835.17	643.07	584.34	504.57	395.47	380.79	424.11
41.00°	244.66	371.59	275.54	521.94	713.30	699.49	577.87	643.67	685.03	585.40	544.41	395.23	382.94	321.90	237.87	210.77	244.66
42.00°	148.28	228.91	153.70	330.52	513.97	462.16	335.73	385.52	449.49	353.50	308.87	213.51	219.13	189.36	138.77	133.90	148.28
43.00°	94.90	119.08	93.42	191.35	365.13	295.77	199.08	213.79	288.67	206.43	175.42	128.54	122.12	113.98	91.59	92.88	94.90

Coefficients of Utilization – Zonal Cavity Method

Values are lumens delivered to the workplane.

RCR	pfc	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	0%
	pcc	80%	80%	80%	80%	70%	70%	70%	70%	50%	50%	50%	30%	30%	30%	10%	10%	0%
	pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	30%
	0	14689	14689	14689	14689	14348	14348	14348	14348	13710	13710	13710	13127	13127	13127	12591	12591	12339
	1	14123	13831	13569	13334	13826	13567	13334	13123	13073	12889	12721	12619	12476	12344	12201	12092	11853
	2	13575	13072	12658	12309	13314	12865	12490	12172	12476	12171	11908	12117	11872	11656	11785	11590	11366
	3	13052	12399	11894	11491	12823	12234	11772	11399	11922	11538	11221	11635	11316	11049	11367	11106	10899
	4	12556	11795	11238	10812	12353	11662	11147	10749	11410	10973	10626	11176	10806	10506	10959	10647	10455
	5	12087	11250	10665	10233	11907	11141	10596	10189	10935	10463	10102	10742	10336	10017	10563	10214	10036
	6	11644	10754	10157	9729	11483	10664	10104	9697	10493	10001	9634	10334	9902	9573	10184	9807	9643
	7	11227	10302	9702	9282	11083	10227	9661	9259	10083	9580	9213	9949	9502	9168	9823	9426	9275
	8	10835	9887	9291	8882	10705	9824	9258	8865	9702	9194	8831	9588	9131	8797	9481	9071	8931
	9	10466	9506	8918	8521	10349	9452	8891	8508	9348	8839	8482	9251	8788	8456	9158	8739	8611
	10	10120	9155	8577	8193	10014	9108	8555	8183	9019	8512	8163	8934	8471	8143	8854	8430	8312

Cone of Light

Mtg Height	Light Level	Beam Diameter
5.5 ft	1427.8 fc	2.3 ft
6.5 ft	1022.3 fc	2.8 ft
7.5 ft	767.8 fc	3.2 ft
8.0 ft	674.9 fc	3.4 ft
10.0 ft	431.9 fc	4.3 ft
12.0 ft	299.9 fc	5.1 ft
14.0 ft	220.4 fc	6.0 ft
16.0 ft	168.7 fc	6.8 ft
20.0 ft	108.0 fc	8.5 ft
24.0 ft	75.0 fc	10.2 ft
28.0 ft	55.1 fc	11.9 ft

Average Luminaire Luminance [cd/m²]

	0.00°	45.00°	90.00°
0.00°	591940	591940	591940
45.00°	918	402	2590
55.00°	265	346	358
65.00°	202	246	371
75.00°	448	418	428
85.00°	1286	1012	1814

UGR CIE 190:2010

Ceiling reflectance		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall reflectance		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Plane reflectance		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewing C0-180					Viewing C90-270				
2H	2H	-9.3	-8.4	-9.0	-8.1	-7.8	-7.8	-6.9	-7.4	-6.6	-6.3
	3H	-6.4	-5.6	-6.0	-5.3	-4.9	-5.8	-5.0	-5.4	-4.7	-4.3
	4H	-5.1	-4.4	-4.7	-4.1	-3.7	-4.3	-3.5	-3.9	-3.2	-2.8
	6H	-3.7	-3.0	-3.3	-2.7	-2.3	-2.6	-1.9	-2.2	-1.6	-1.2
	8H	-2.4	-1.8	-1.9	-1.4	-1.0	-1.5	-0.9	-1.1	-0.5	-0.1
	12H	-1.0	-0.4	-0.5	0.0	0.4	0.1	0.7	0.5	1.1	1.5
4H	2H	-8.8	-8.1	-8.4	-7.7	-7.3	-7.4	-6.7	-7.0	-6.3	-6.0
	3H	-5.4	-4.8	-4.9	-4.4	-3.9	-4.8	-4.2	-4.4	-3.8	-3.4
	4H	-3.9	-3.4	-3.5	-3.0	-2.5	-2.6	-2.1	-2.2	-1.7	-1.2
	6H	-2.3	-1.9	-1.8	-1.4	-0.9	-0.8	-0.4	-0.4	0.1	0.6
	8H	-0.9	-0.5	-0.4	0.0	0.4	0.3	0.7	0.8	1.2	1.7
	12H	0.6	1.0	1.1	1.5	1.9	2.0	2.4	2.5	2.9	3.4
8H	4H	-3.3	-2.9	-2.8	-2.5	-2.0	-2.1	-1.7	-1.7	-1.3	-0.8
	6H	-1.2	-0.9	-0.7	-0.4	0.1	0.0	0.4	0.6	0.9	1.4
	8H	0.3	0.6	0.8	1.1	1.6	1.5	1.8	2.1	2.3	2.8
	12H	2.0	2.2	2.5	2.7	3.3	3.7	3.9	4.2	4.4	5.0
12H	4H	-3.0	-2.6	-2.5	-2.2	-1.7	-2.0	-1.7	-1.5	-1.2	-0.7
	6H	-0.8	-0.5	-0.2	0.0	0.6	0.4	0.6	0.9	1.1	1.7
	8H	0.8	1.0	1.3	1.5	2.1	2.0	2.2	2.5	2.7	3.3

Corrected UGR values based on total output energy
SHR = 1.0

Corrected UGR values based on total output lumens

SHR = 1.0