

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P242654

Luminaire Tested: S124DRP-S575D935-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242654
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-21)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S575D935-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

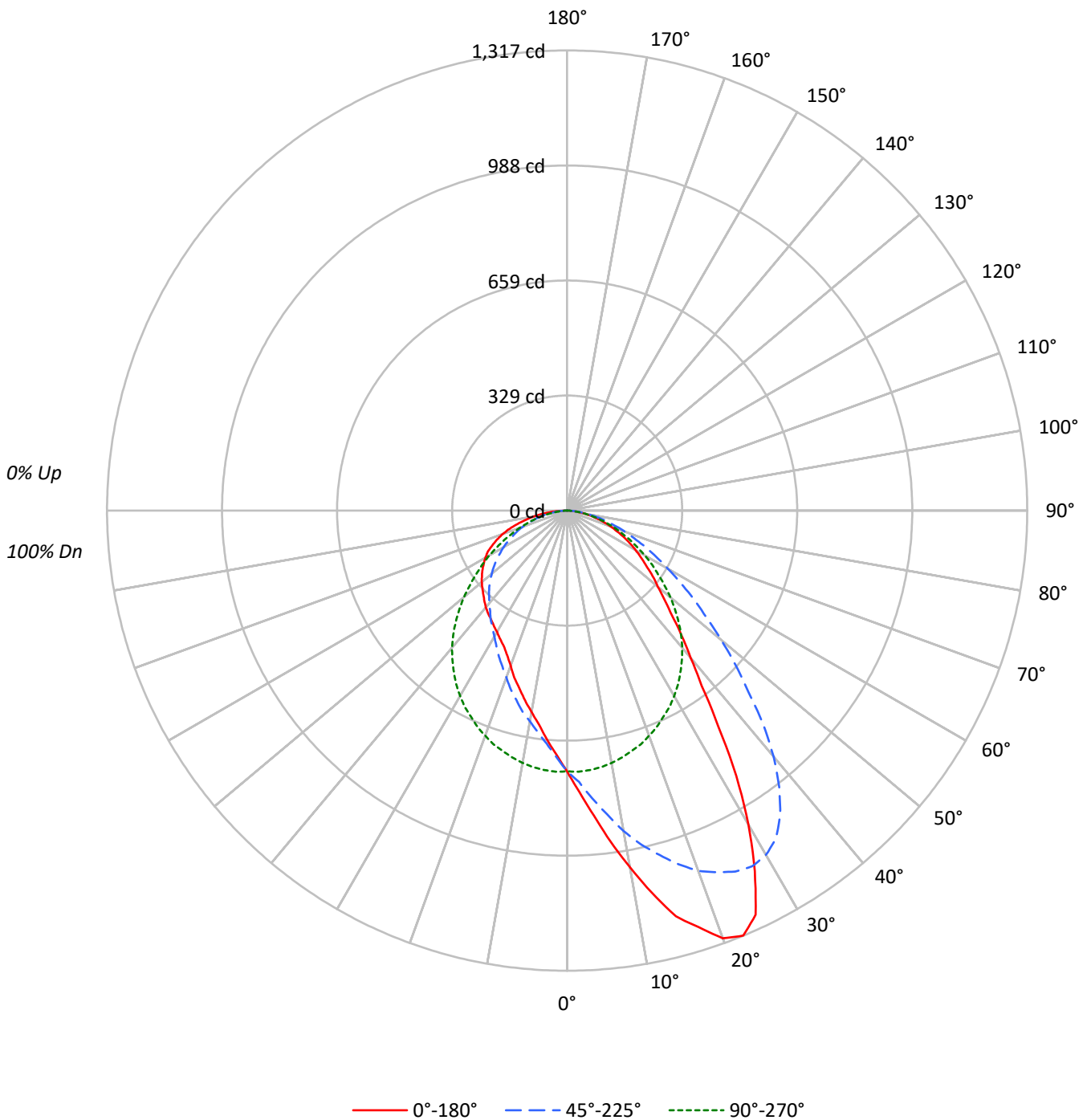
Lumens per Lamp: N/A
Luminaire Lumens: 2059.1 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.3 / 1.22 / 1.41
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P242654

CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62					62			
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46					46			
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6633	6633	6633	6633	6633
5°	7811	7378	6650	5977	5869
10°	9352	8407	6621	5530	5285
15°	11065	9390	6554	5165	4852
20°	12322	10380	6485	4807	4468
25°	12521	11178	6385	4526	4202
30°	10654	11683	6289	4274	4118
35°	8192	11535	6132	4135	4119
40°	6384	10660	5947	4021	4197
45°	5324	9224	5669	3971	4267
50°	4685	7956	5331	3898	4411
55°	4293	6845	4925	3828	4589
60°	4023	5924	4562	3732	4804
65°	3744	5176	4154	3609	4981
70°	3423	4572	3753	3511	5094
75°	3057	3939	3300	3280	5031
80°	2565	3194	2708	2989	4873
85°	1887	2427	1958	2774	4661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 10185 cd/sqm



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CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.6	3.5
10°-20°	224.2	10.9
20°-30°	356.1	17.3
30°-40°	395.7	19.2
40°-50°	359.9	17.5
50°-60°	294.1	14.3
60°-70°	209.9	10.2
70°-80°	115.5	5.6
80°-90°	31.2	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	652.9	31.7
0°-40°	1048.6	50.9
0°-60°	1702.5	82.7
0°-90°	2059.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2059.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	746	746	746	746	746	
5°	875	827	745	670	658	89
15°	1202	1020	712	561	527	340
25°	1277	1140	651	462	428	566
35°	755	1063	565	381	380	478
45°	424	734	451	316	339	333
55°	277	442	318	247	296	250
65°	178	246	198	172	237	176
75°	89	115	96	96	146	94
85°	18	24	19	27	46	23
90°	0	0	0	0	0	



TEST NUMBER: P242654

CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2
2.5°	806.2	805.9	802.8	802.1	800.0	797.2	796.6	791.6	781.7	777.1	775.9
5°	875.4	881.6	873.6	872.0	871.1	860.9	855.6	849.4	835.2	826.9	820.4
7.5°	956.4	956.7	953.3	949.9	944.0	935.4	923.6	910.0	893.6	877.0	865.2
10°	1036.1	1038.6	1034.6	1034.0	1018.2	1008.3	988.5	971.8	952.7	931.4	911.9
12.5°	1120.2	1115.3	1113.7	1097.3	1097.7	1077.6	1053.8	1036.5	1004.3	979.0	951.4
15°	1202.4	1195.6	1191.3	1173.1	1164.1	1139.1	1114.7	1095.8	1057.2	1020.4	992.6
17.5°	1250.0	1258.4	1247.3	1239.8	1215.4	1199.0	1174.6	1136.0	1107.2	1061.5	1029.7
20°	1302.6	1303.2	1297.7	1289.9	1271.7	1249.4	1222.2	1179.0	1142.8	1097.3	1049.1
22.5°	1316.8	1316.8	1315.3	1308.2	1295.5	1278.5	1251.0	1216.7	1170.9	1120.5	1072.3
25°	1276.6	1275.4	1278.2	1286.2	1281.0	1275.4	1259.6	1232.7	1191.9	1139.7	1087.8
27.5°	1162.9	1170.9	1187.6	1207.4	1221.6	1234.3	1233.4	1221.9	1192.9	1147.7	1092.4
30°	1038.0	1048.5	1060.3	1080.0	1118.4	1140.3	1164.4	1182.7	1172.5	1138.2	1087.5
32.5°	900.8	901.4	920.2	943.4	977.7	1025.0	1066.7	1108.5	1126.4	1112.5	1072.3
35°	754.9	759.2	778.0	800.3	843.3	894.9	952.4	1003.7	1046.0	1063.0	1041.4
37.5°	632.4	646.0	660.3	685.6	724.9	771.5	833.4	897.4	959.5	997.2	1001.2
40°	550.2	557.9	567.5	585.8	617.9	663.7	715.0	791.0	858.1	918.7	938.5
42.5°	485.3	489.0	494.0	510.0	532.6	578.0	623.8	688.4	755.8	831.2	867.7
45°	423.5	428.1	438.0	447.6	466.1	497.7	541.3	596.3	664.0	733.8	795.0
47.5°	377.1	380.2	386.4	396.9	413.6	434.9	472.0	518.7	584.8	652.5	718.1
50°	338.8	341.3	345.9	355.2	367.2	385.8	414.8	457.8	506.9	575.3	639.2
52.5°	308.5	309.1	312.2	317.8	326.7	341.6	364.1	397.8	442.6	501.7	565.4
55°	277.0	278.2	281.3	285.9	294.3	304.2	322.4	349.0	388.9	441.7	497.1
57.5°	251.0	252.2	254.7	256.6	264.0	272.3	287.2	306.3	337.6	384.5	434.9
60°	226.3	225.7	228.7	230.3	234.9	241.7	252.5	270.8	297.1	333.2	378.7
62.5°	202.2	201.2	203.7	205.9	208.0	213.6	221.9	235.2	255.3	287.2	324.9
65°	178.0	176.8	178.4	180.8	183.3	186.4	192.9	205.6	222.6	246.1	276.0
67.5°	153.3	154.9	154.9	156.4	158.0	162.3	166.9	176.8	188.9	208.0	234.6
70°	131.7	132.0	133.2	133.2	134.2	137.9	141.6	146.8	158.6	175.9	196.6
72.5°	110.0	111.6	110.7	111.9	112.5	114.7	117.2	122.1	131.7	143.4	160.1
75°	89.0	90.0	90.0	90.3	91.2	92.1	94.3	98.0	105.1	114.7	126.7
77.5°	68.6	68.6	69.2	70.5	70.5	72.0	73.9	76.7	80.7	87.8	95.5
80°	50.1	50.7	50.4	51.0	51.0	52.2	52.9	56.6	58.1	62.4	68.3
82.5°	33.4	34.0	34.0	34.9	35.5	35.5	36.5	37.4	38.9	42.7	44.2
85°	18.5	19.2	18.5	19.2	20.1	20.4	21.3	21.6	22.9	23.8	26.0
87.5°	6.8	7.7	7.7	8.0	8.7	9.0	9.3	9.0	10.2	10.5	11.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242654

CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2
2.5°	776.2	771.9	768.8	766.3	759.5	755.5	752.4	748.1	743.1	737.9	731.4
5°	813.9	803.4	795.7	783.9	772.8	763.5	753.9	745.3	734.8	723.3	715.0
7.5°	852.5	838.0	818.5	803.4	785.1	769.4	755.5	740.9	725.5	710.6	696.7
10°	889.0	868.9	846.7	820.4	795.7	773.7	753.3	733.5	714.4	695.2	678.8
12.5°	928.3	902.0	866.4	834.6	806.2	774.9	749.3	723.9	699.8	679.4	659.6
15°	962.6	926.4	888.4	847.3	810.8	776.5	742.8	712.2	686.2	659.6	641.1
17.5°	984.2	939.4	898.6	855.6	813.6	770.6	735.7	701.4	669.2	643.3	620.1
20°	1005.5	961.0	906.9	864.0	811.4	766.9	724.9	685.6	651.6	623.5	599.4
22.5°	1024.1	970.9	916.8	856.9	804.6	756.7	709.7	670.2	635.2	605.2	582.4
25°	1028.4	969.4	910.6	854.4	795.0	739.1	697.4	651.0	613.9	582.7	557.9
27.5°	1030.0	967.5	902.3	841.1	779.9	728.9	674.5	634.0	595.7	562.6	539.1
30°	1026.6	960.7	889.3	821.6	760.1	703.5	657.8	612.7	573.4	540.6	515.9
32.5°	1015.7	946.5	872.6	800.0	735.7	680.7	633.1	590.7	552.7	520.5	494.3
35°	992.9	925.2	847.0	772.5	707.2	651.3	608.6	565.1	526.7	496.1	471.1
37.5°	962.3	899.2	819.8	742.2	679.4	622.6	579.6	539.4	504.8	473.3	447.3
40°	919.6	865.8	786.1	711.0	641.7	588.2	548.7	512.5	478.2	448.8	424.4
42.5°	870.5	825.3	753.3	672.6	606.5	552.7	514.4	482.8	451.0	424.4	400.0
45°	810.2	779.3	710.0	636.5	566.9	516.2	479.4	451.0	423.8	397.2	376.8
47.5°	743.1	725.8	665.5	595.0	528.3	477.6	445.7	418.5	393.8	370.6	352.4
50°	675.4	668.0	617.6	550.2	487.2	440.2	408.0	385.5	365.1	345.3	328.3
52.5°	608.6	610.2	566.0	505.7	448.5	403.7	371.9	351.2	334.2	319.0	304.2
55°	540.3	549.0	513.4	458.4	406.2	365.4	336.6	317.8	305.4	292.1	280.7
57.5°	477.6	492.1	461.2	410.8	366.6	327.7	302.3	287.8	274.2	265.5	256.6
60°	416.4	430.0	407.1	366.3	325.2	293.0	269.2	256.6	245.1	239.6	233.7
62.5°	362.0	373.7	358.3	321.2	286.9	256.3	237.1	225.0	218.2	212.1	208.7
65°	310.7	320.9	306.3	278.8	248.2	223.5	207.1	197.5	190.1	187.6	183.3
67.5°	260.0	269.2	261.5	237.4	211.4	192.0	179.0	168.8	164.4	162.0	159.2
70°	215.8	225.0	216.7	196.3	177.4	161.7	149.6	144.4	139.7	138.8	134.5
72.5°	178.4	183.9	175.6	160.7	145.3	132.6	124.0	118.4	116.5	114.7	112.8
75°	139.4	145.0	139.4	127.0	115.6	106.3	98.3	96.1	93.4	92.4	90.9
77.5°	104.5	109.7	105.4	97.1	88.1	80.4	75.7	72.6	72.3	70.5	71.1
80°	75.4	78.5	74.5	69.2	62.4	57.5	54.4	52.9	51.0	50.4	51.6
82.5°	48.8	49.8	48.2	45.1	40.5	37.7	35.9	34.0	34.0	34.3	34.0
85°	28.1	27.8	27.5	24.4	22.9	20.7	19.5	19.2	18.9	19.5	20.1
87.5°	11.7	12.1	11.7	10.5	9.6	8.7	8.3	8.0	8.3	8.7	9.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2	746.2
2.5°	728.3	725.5	721.5	715.9	711.3	706.3	705.1	703.2	706.9	703.8	702.9
5°	707.9	701.4	693.0	683.4	677.9	669.8	668.3	665.2	662.1	661.8	658.7
7.5°	686.5	677.6	667.1	657.2	648.5	639.9	634.3	633.7	628.7	626.3	623.2
10°	666.1	654.4	641.7	632.4	621.9	612.7	606.2	602.5	599.4	596.0	592.9
12.5°	642.0	629.4	619.5	609.3	596.3	589.8	578.0	570.9	570.9	571.9	562.6
15°	624.4	612.0	596.0	581.7	574.9	561.3	555.5	548.1	543.4	538.8	535.1
17.5°	602.8	587.6	575.3	559.2	546.5	536.3	528.3	524.3	516.8	510.0	505.4
20°	582.7	566.3	553.0	535.7	521.5	508.2	501.7	495.5	490.3	484.7	479.4
22.5°	562.3	545.0	528.0	511.3	498.3	484.1	477.9	468.9	464.0	461.5	456.2
25°	540.6	522.1	503.5	487.5	473.9	461.5	453.2	446.7	441.1	438.6	435.2
27.5°	517.1	498.9	481.3	462.7	447.0	438.0	431.2	426.0	422.6	418.8	417.3
30°	494.9	475.7	456.6	439.6	425.3	416.4	410.2	406.8	404.3	402.8	401.2
32.5°	472.3	453.5	433.1	417.9	405.6	397.8	393.5	390.1	389.2	388.9	388.6
35°	447.9	428.7	410.2	396.3	384.2	381.1	377.1	375.3	374.6	376.8	377.7
37.5°	424.4	406.5	389.2	375.3	367.2	362.3	360.7	360.4	362.6	364.4	366.6
40°	401.8	384.5	368.5	356.7	349.3	346.5	345.9	347.4	349.9	352.1	354.6
42.5°	379.9	362.9	348.7	337.9	333.2	330.7	331.4	332.9	336.6	339.4	343.4
45°	357.0	342.8	328.6	319.6	315.3	315.9	315.9	318.7	322.1	326.1	330.1
47.5°	335.7	321.2	309.1	301.4	299.2	298.3	299.8	303.5	308.2	312.8	318.4
50°	314.1	300.5	290.3	283.5	281.0	281.9	284.4	287.8	293.7	299.8	305.7
52.5°	292.1	280.1	270.8	264.6	263.1	264.9	267.4	273.3	278.2	285.0	292.4
55°	269.2	258.7	251.3	246.7	246.1	247.0	249.8	255.6	263.1	271.4	278.2
57.5°	246.7	237.7	230.6	227.2	227.5	228.1	232.5	239.6	247.0	255.9	264.6
60°	223.8	215.8	210.2	207.7	208.0	209.9	215.5	221.9	231.8	240.5	249.8
62.5°	202.2	195.4	190.1	187.9	187.3	192.0	197.2	204.0	213.9	223.8	234.0
65°	178.7	173.1	168.8	167.5	168.5	171.6	178.4	187.3	195.7	205.9	216.4
67.5°	155.8	151.2	148.1	148.7	149.6	153.9	159.8	167.5	176.8	187.3	198.1
70°	134.2	129.8	127.4	127.7	129.5	135.1	140.0	147.8	158.0	168.8	177.4
72.5°	111.9	109.4	107.3	108.8	110.7	114.1	120.6	128.3	136.9	146.8	156.1
75°	89.3	89.3	88.1	89.0	91.8	95.5	100.2	108.2	117.2	125.2	132.6
77.5°	70.2	69.2	69.9	70.8	72.6	77.3	82.5	88.4	95.5	103.9	110.0
80°	50.7	51.0	52.5	54.4	55.0	58.4	64.0	69.2	74.5	81.3	87.2
82.5°	34.9	35.2	35.9	38.3	38.9	42.7	45.7	51.0	55.6	59.7	64.3
85°	20.7	20.7	22.3	23.2	24.7	27.2	29.4	32.5	36.8	39.9	44.5
87.5°	9.9	9.9	11.1	11.7	12.7	14.2	14.8	18.2	19.5	21.0	23.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242654

CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	746.2	746.2	746.2	746.2
2.5°	702.3	701.7	699.5	699.2
5°	656.9	655.3	654.4	657.8
7.5°	622.6	621.3	618.5	617.6
10°	589.8	588.5	586.1	585.5
12.5°	558.3	555.5	555.5	556.4
15°	531.1	529.8	526.4	527.3
17.5°	503.2	502.0	497.4	502.0
20°	477.3	474.8	472.6	472.3
22.5°	452.5	450.4	450.7	448.2
25°	432.8	430.6	430.0	428.4
27.5°	416.7	415.4	414.2	414.8
30°	402.2	401.8	401.2	401.2
32.5°	390.1	390.1	390.7	390.7
35°	379.0	379.9	380.5	379.6
37.5°	369.1	369.7	370.6	371.6
40°	357.3	359.5	360.1	361.7
42.5°	346.2	348.7	350.5	350.5
45°	334.8	337.2	339.4	339.4
47.5°	323.0	326.4	328.6	328.9
50°	311.0	315.3	317.5	319.0
52.5°	299.2	303.5	306.6	307.3
55°	285.3	291.5	294.9	296.1
57.5°	272.9	278.5	282.2	283.1
60°	258.1	264.3	269.2	270.2
62.5°	243.0	249.5	253.8	256.6
65°	225.0	231.5	235.9	236.8
67.5°	206.2	213.0	215.8	217.6
70°	186.1	191.3	194.4	196.0
72.5°	163.2	168.8	172.5	172.5
75°	139.7	144.7	146.5	146.5
77.5°	115.3	118.1	120.6	121.2
80°	91.8	93.4	95.2	95.2
82.5°	67.7	68.9	70.8	70.5
85°	43.9	46.7	46.4	45.7
87.5°	24.7	25.0	26.0	26.6
90°	0.0	0.0	0.0	0.0



TEST NUMBER: P242654
 CATALOG NUMBER: S124DRP-S575D935-X4F0-XX-UDD-A-W

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	16.54	18.10	16.91	18.42	18.73	17.45	19.01	17.82	19.33	19.64
	3H	18.02	19.43	18.40	19.76	20.12	18.82	20.23	19.20	20.55	20.91
	4H	18.56	19.88	18.96	20.23	20.61	19.29	20.61	19.69	20.96	21.34
	6H	18.92	20.15	19.33	20.51	20.90	19.60	20.82	20.01	21.19	21.58
	8H	19.02	20.19	19.45	20.58	20.98	19.68	20.84	20.10	21.23	21.63
	12H	19.08	20.19	19.51	20.58	21.01	19.72	20.84	20.15	21.22	21.65
4H	2H	17.70	19.02	18.10	19.37	19.75	18.14	19.46	18.54	19.81	20.19
	3H	19.23	20.33	19.64	20.73	21.13	19.84	20.95	20.26	21.35	21.75
	4H	19.82	20.81	20.25	21.23	21.67	20.43	21.43	20.87	21.84	22.28
	6H	20.25	21.11	20.70	21.55	22.01	20.83	21.70	21.29	22.14	22.60
	8H	20.37	21.18	20.83	21.62	22.09	20.94	21.75	21.40	22.19	22.66
	12H	20.45	21.17	20.93	21.65	22.12	21.00	21.73	21.48	22.20	22.67
8H	4H	20.27	21.09	20.74	21.53	21.99	20.75	21.56	21.21	22.00	22.47
	6H	20.78	21.45	21.28	21.94	22.42	21.28	21.95	21.77	22.44	22.92
	8H	20.95	21.55	21.46	22.06	22.55	21.44	22.04	21.95	22.55	23.04
	12H	21.07	21.61	21.58	22.10	22.66	21.55	22.09	22.06	22.58	23.14
12H	4H	20.32	21.05	20.80	21.53	22.00	20.78	21.51	21.26	21.98	22.45
	6H	20.85	21.46	21.37	21.97	22.45	21.33	21.94	21.84	22.45	22.93
	8H	21.07	21.61	21.58	22.10	22.66	21.55	22.09	22.06	22.58	23.14