

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: P242762

Luminaire Tested: S124RDRP-S575D940-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S575D940-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

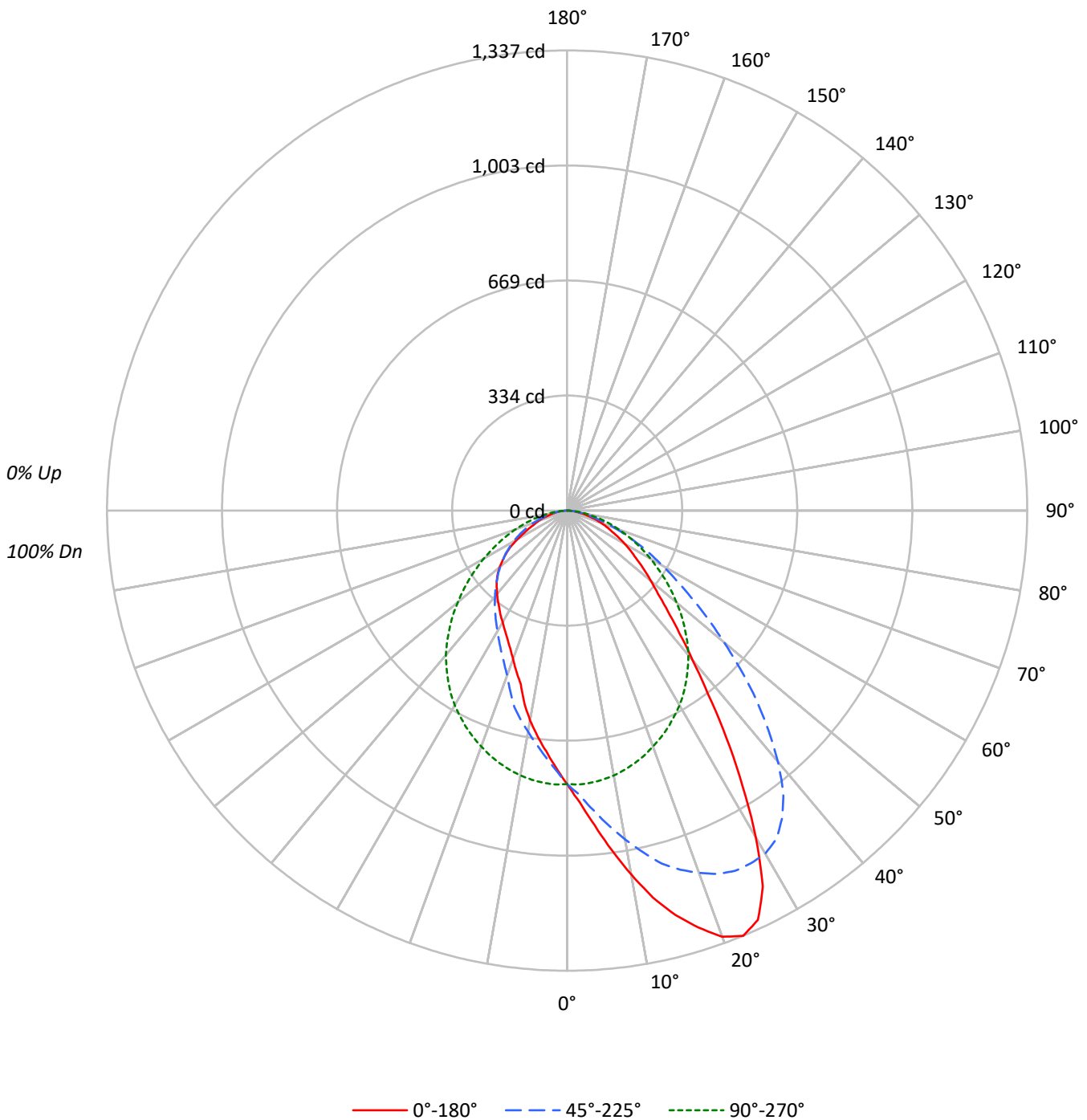
Lumens per Lamp: N/A
Luminaire Lumens: 2008.6 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
Input Voltage (V): 120
Input Current (A_{in}): 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

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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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74					74			
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63					63			
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55					55			
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48					48			
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43					43			
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38					38			
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34					34			
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31					31			
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28					28			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	7063	7063	7063	7063	7063
5°	8193	7799	7084	6410	6261
10°	9691	8755	7054	5892	5588
15°	11195	9775	6988	5444	4802
20°	12465	10599	6899	4815	4343
25°	12867	11329	6811	4437	4032
30°	11264	11816	6703	4157	3845
35°	8768	11821	6544	3947	3731
40°	6575	11058	6363	3778	3670
45°	5192	9759	6073	3634	3638
50°	4382	8213	5738	3511	3533
55°	3820	6806	5368	3378	3344
60°	3438	5698	4985	3188	2960
65°	3031	4747	4573	2970	2545
70°	2729	3794	4143	2680	2297
75°	2287	2947	3671	2353	1958
80°	1935	2227	3128	1950	1838
85°	1632	1764	2448	1734	1632

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 10424 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	3.8
10°-20°	232.3	11.6
20°-30°	363.9	18.1
30°-40°	404.2	20.1
40°-50°	358.2	17.8
50°-60°	279.1	13.9
60°-70°	182.6	9.1
70°-80°	89.6	4.5
80°-90°	21.8	1.1
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°	673.2	33.5
0°-40°	1077.4	53.6
0°-60°	1714.6	85.4
0°-90°	2008.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2008.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	795	795	795	795	795	
5°	918	874	794	718	702	92
15°	1216	1062	759	592	522	346
25°	1312	1155	694	452	411	586
35°	808	1089	603	364	344	506
45°	413	776	483	289	289	326
55°	246	439	346	218	216	224
65°	144	226	217	141	121	145
75°	67	86	107	68	57	73
85°	16	17	24	17	16	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	849.0	851.9	849.0	848.7	845.5	844.5	843.2	839.1	831.4	826.9	827.9
5°	918.2	926.2	921.7	921.0	914.0	906.9	902.5	892.2	881.3	874.0	867.9
7.5°	995.0	999.8	996.6	993.1	980.9	977.1	966.5	954.3	936.1	922.3	909.8
10°	1073.7	1077.6	1076.3	1068.0	1059.7	1042.7	1033.1	1014.2	989.5	970.0	951.8
12.5°	1151.2	1155.4	1141.6	1144.2	1126.6	1114.1	1097.4	1072.5	1043.0	1016.4	992.4
15°	1216.5	1211.4	1211.4	1205.0	1187.4	1168.8	1153.1	1128.2	1092.3	1062.2	1030.5
17.5°	1270.3	1272.5	1270.0	1253.7	1240.9	1222.0	1193.8	1165.3	1134.2	1093.9	1062.5
20°	1317.7	1317.7	1314.8	1304.6	1286.6	1266.1	1235.1	1203.4	1161.1	1120.5	1084.0
22.5°	1336.9	1338.2	1334.7	1326.6	1311.0	1291.1	1265.8	1233.5	1189.6	1142.6	1095.2
25°	1311.9	1318.0	1318.6	1316.4	1311.6	1299.4	1276.7	1243.7	1204.7	1155.1	1106.4
27.5°	1231.2	1239.2	1242.5	1249.5	1262.6	1267.4	1264.5	1242.5	1204.7	1155.7	1107.4
30°	1097.4	1103.8	1124.6	1151.9	1173.0	1192.2	1208.8	1213.3	1194.1	1151.2	1099.7
32.5°	948.9	958.2	979.0	1008.8	1047.5	1083.3	1125.9	1148.7	1152.8	1131.4	1084.6
35°	808.0	814.4	833.6	864.4	906.6	955.0	1014.2	1060.3	1091.7	1089.4	1060.3
37.5°	672.9	681.9	701.4	726.7	768.3	830.1	886.1	947.9	1004.3	1031.8	1017.1
40°	566.6	567.0	585.9	612.1	650.5	702.7	765.1	835.6	900.2	953.0	963.3
42.5°	482.8	482.8	493.7	522.5	547.4	595.8	654.7	724.5	802.9	866.0	897.3
45°	413.0	415.9	426.1	443.1	464.8	506.5	554.2	619.1	704.0	776.3	821.5
47.5°	357.9	363.0	369.1	384.5	402.4	431.5	472.2	533.0	603.5	683.8	746.2
50°	316.9	317.6	325.9	333.6	348.6	370.7	405.3	454.0	517.3	593.9	665.2
52.5°	281.7	281.4	285.6	295.8	307.3	323.3	349.6	392.8	447.2	513.8	588.1
55°	246.5	248.1	251.9	259.6	268.9	281.1	303.2	336.5	380.6	439.2	506.1
57.5°	219.6	220.6	224.1	227.0	235.9	244.9	262.8	286.8	325.6	374.6	440.2
60°	193.4	193.7	194.6	199.4	206.2	214.5	225.7	245.2	276.6	320.5	369.8
62.5°	167.8	168.4	170.0	173.2	178.0	183.1	195.0	209.7	234.3	270.2	313.4
65°	144.1	144.4	146.6	147.9	152.1	157.2	165.8	176.4	194.3	225.7	259.3
67.5°	124.2	124.2	124.2	126.1	129.3	132.9	138.6	147.6	162.0	182.2	213.5
70°	105.0	105.0	105.6	106.6	108.2	111.1	114.0	120.4	130.3	146.0	168.7
72.5°	87.1	87.4	88.0	88.0	88.7	90.9	92.8	96.4	103.1	114.0	131.3
75°	66.6	67.5	69.1	70.4	72.0	71.7	74.0	76.5	78.8	85.8	96.4
77.5°	52.5	51.9	51.9	53.1	53.5	53.8	55.4	57.6	59.5	63.4	67.2
80°	37.8	37.8	38.7	39.1	38.7	39.1	40.7	41.6	42.3	43.5	47.1
82.5°	26.3	26.9	26.3	26.6	26.9	27.2	28.5	28.5	29.1	29.5	30.4
85°	16.0	16.3	16.6	16.0	16.0	16.0	16.6	17.0	17.6	17.3	17.9
87.5°	7.0	6.7	7.0	7.0	7.4	7.0	7.4	8.0	7.4	7.7	7.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	824.7	820.2	817.9	812.8	806.7	803.5	800.7	796.5	791.1	785.3	781.1
5°	860.2	852.5	842.9	831.4	821.2	811.2	802.6	793.9	784.0	773.8	763.5
7.5°	895.4	881.7	866.9	849.3	832.4	816.7	802.6	788.8	773.1	759.0	745.9
10°	932.6	912.1	889.3	865.3	841.3	820.5	800.0	781.5	761.0	742.7	727.4
12.5°	962.7	937.7	909.2	877.8	847.7	821.5	797.1	771.5	747.5	727.4	705.6
15°	996.6	963.6	926.8	890.9	853.5	819.2	787.5	759.4	732.8	704.9	685.4
17.5°	1020.0	981.9	938.3	896.7	853.8	814.1	778.3	745.6	715.2	687.3	664.3
20°	1040.4	997.2	947.6	898.6	849.0	805.8	766.4	729.3	697.6	666.8	642.8
22.5°	1052.0	1003.0	947.6	895.7	843.9	796.2	752.0	712.9	677.7	647.0	619.8
25°	1052.6	1001.4	946.0	887.1	830.8	781.1	736.3	694.4	656.0	625.2	597.1
27.5°	1050.0	990.8	935.1	875.3	817.3	764.5	718.1	673.6	635.5	602.8	574.0
30°	1042.4	977.7	916.9	854.1	795.2	745.0	695.3	653.1	613.1	578.8	549.7
32.5°	1025.7	961.7	895.1	830.4	770.6	718.4	672.0	629.4	590.3	555.1	523.7
35°	1002.7	937.7	866.6	800.7	742.1	688.3	644.1	603.1	565.7	528.2	495.6
37.5°	976.1	908.2	838.1	765.8	707.5	656.3	615.0	575.6	539.1	504.9	468.7
40°	935.1	874.6	801.6	729.9	669.7	620.7	583.3	548.4	511.6	477.6	441.5
42.5°	885.5	836.2	762.2	690.2	631.0	584.2	550.0	516.1	483.4	450.8	412.7
45°	829.2	790.1	720.9	651.8	591.9	545.2	513.2	483.1	453.6	422.3	386.7
47.5°	766.4	737.6	677.4	605.1	549.0	506.1	475.4	450.4	424.5	392.8	360.8
50°	700.5	683.5	625.9	561.2	508.4	469.6	437.9	414.9	394.1	364.0	336.1
52.5°	630.0	623.0	576.6	515.4	464.8	427.1	401.1	381.0	359.8	336.1	310.5
55°	558.3	563.1	521.8	468.4	420.3	388.3	363.7	346.4	328.5	307.3	287.2
57.5°	483.7	502.0	471.2	422.9	376.5	346.4	327.5	312.1	297.1	279.2	260.9
60°	418.1	432.8	417.1	375.8	336.5	308.9	291.6	280.4	265.4	249.4	236.3
62.5°	354.1	370.1	362.4	331.0	295.2	272.4	257.7	247.5	237.2	223.8	210.0
65°	302.5	312.8	308.3	285.2	259.3	239.1	225.1	217.4	207.1	196.9	184.7
67.5°	242.0	262.2	259.0	246.2	221.2	205.2	195.3	188.2	178.6	171.0	162.3
70°	190.5	208.7	208.4	198.5	186.3	171.6	165.2	159.4	151.1	143.7	137.0
72.5°	147.3	163.6	166.8	159.7	152.4	142.1	136.1	132.5	124.5	120.1	114.9
75°	109.2	121.3	124.5	124.5	120.7	114.9	109.5	106.9	101.2	96.7	93.5
77.5°	76.8	85.2	90.0	90.9	91.2	89.0	83.9	82.0	77.5	75.9	72.4
80°	50.6	55.7	61.5	63.4	65.0	64.3	62.4	61.1	57.0	55.4	54.1
82.5°	31.1	33.3	37.8	42.6	41.6	43.9	42.3	41.3	38.4	38.1	36.8
85°	18.2	18.6	19.2	22.1	23.7	24.3	24.7	24.0	23.0	23.0	20.8
87.5°	7.7	7.4	8.0	8.0	8.3	9.6	10.6	10.9	9.9	9.0	8.0
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°	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6	794.6
2.5°	776.7	773.5	769.3	764.5	758.7	753.6	751.4	753.3	754.2	751.7	751.4
5°	756.5	748.5	742.1	732.5	724.8	718.4	713.9	712.0	712.6	707.5	706.2
7.5°	734.1	725.4	714.9	704.0	693.7	684.8	680.0	677.7	672.3	670.0	666.5
10°	712.6	699.8	689.6	676.1	664.0	652.8	647.3	642.8	637.4	634.8	629.4
12.5°	690.5	675.2	663.6	649.6	637.1	623.0	617.9	608.6	599.3	593.2	585.9
15°	670.0	652.1	638.4	621.7	607.0	591.6	577.8	562.5	556.7	544.6	537.5
17.5°	645.7	627.1	611.8	590.3	568.2	549.7	534.3	518.3	509.7	501.3	497.8
20°	621.7	605.1	581.4	555.4	530.1	509.0	497.2	487.6	478.0	472.5	468.7
22.5°	599.0	576.6	548.1	519.6	494.3	478.9	469.3	459.4	452.0	446.9	441.5
25°	573.0	545.2	516.1	484.0	466.8	452.4	441.5	433.5	428.7	421.9	419.4
27.5°	547.8	514.1	481.2	459.4	441.5	427.7	417.8	412.0	405.6	401.1	397.6
30°	517.7	483.4	454.6	434.1	415.9	405.0	397.3	390.2	385.4	381.9	379.4
32.5°	487.9	453.6	430.6	408.2	394.7	384.2	375.8	371.0	367.5	362.7	361.4
35°	459.4	429.0	407.9	388.0	373.3	363.7	357.3	351.8	348.6	347.3	346.4
37.5°	431.5	406.3	382.9	366.9	353.1	345.7	337.4	334.9	332.6	329.7	331.0
40°	405.3	381.9	361.8	344.5	333.9	325.6	321.1	317.9	316.0	316.0	316.0
42.5°	382.6	359.8	340.3	325.3	314.7	308.0	302.8	300.3	300.0	299.6	301.6
45°	358.9	337.7	317.9	305.1	296.1	289.1	286.2	284.0	284.0	285.2	285.6
47.5°	335.2	315.3	299.3	284.6	276.3	271.8	269.2	268.0	268.0	269.6	270.8
50°	313.7	294.2	278.5	265.7	258.0	253.9	251.6	251.0	251.6	251.6	253.9
52.5°	290.4	273.4	258.0	247.8	238.8	235.0	234.0	233.1	233.4	234.7	235.3
55°	267.6	251.9	237.2	227.0	220.6	218.0	215.1	215.5	214.8	215.5	215.5
57.5°	244.6	230.8	216.4	208.1	202.6	198.8	195.6	196.6	195.6	195.6	195.3
60°	222.5	207.1	196.2	188.9	182.5	179.3	176.4	177.0	176.1	175.4	174.2
62.5°	198.5	186.3	176.1	169.0	164.2	160.4	157.5	156.5	154.0	151.4	148.2
65°	175.4	164.9	155.6	148.9	144.1	141.2	138.9	137.0	132.2	127.1	124.5
67.5°	152.7	145.0	136.1	130.3	126.5	122.6	118.5	114.9	110.1	106.9	105.3
70°	130.9	123.6	116.2	110.8	106.6	103.1	98.3	96.0	92.8	91.6	90.0
72.5°	110.1	103.4	96.7	91.9	87.4	84.8	81.3	79.1	78.1	77.8	76.2
75°	89.0	83.6	78.4	74.0	70.4	68.5	66.9	65.3	64.7	61.8	60.2
77.5°	68.5	64.7	61.5	57.9	55.7	54.4	50.9	48.7	47.4	45.8	45.5
80°	50.6	48.0	44.8	42.9	39.4	38.1	36.8	36.5	36.2	35.9	35.5
82.5°	34.9	32.3	29.1	28.2	27.9	27.2	26.6	26.3	25.9	26.3	26.3
85°	19.2	17.9	17.9	17.6	17.3	17.0	16.6	16.6	16.3	16.6	16.3
87.5°	8.0	7.7	7.7	7.0	7.4	7.4	7.0	7.0	7.4	6.7	6.7
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):

	165°	170°	175°	180°
0°	794.6	794.6	794.6	794.6
2.5°	749.4	750.1	747.8	747.2
5°	703.7	703.0	701.4	701.7
7.5°	664.0	661.7	663.3	660.8
10°	628.1	624.6	621.7	619.1
12.5°	579.1	576.2	572.1	573.7
15°	533.3	528.5	520.9	521.8
17.5°	492.4	493.0	488.5	489.8
20°	462.0	459.7	460.0	459.1
22.5°	440.8	437.9	435.1	432.8
25°	416.5	414.6	411.7	411.1
27.5°	395.0	394.7	393.4	391.8
30°	376.8	376.2	375.5	374.6
32.5°	360.5	360.2	359.5	359.8
35°	345.1	344.8	344.1	343.8
37.5°	330.7	331.7	331.0	331.0
40°	315.7	316.0	316.6	316.3
42.5°	303.2	303.2	304.1	302.8
45°	287.8	289.7	289.4	289.4
47.5°	271.5	273.7	274.0	274.0
50°	255.5	254.8	255.8	255.5
52.5°	235.9	236.3	235.9	235.6
55°	215.8	216.1	215.5	215.8
57.5°	194.3	193.0	194.0	193.4
60°	171.0	168.4	167.8	166.5
62.5°	144.7	143.1	140.5	142.1
65°	122.0	120.7	119.7	121.0
67.5°	103.7	103.1	103.1	102.4
70°	90.0	89.0	89.0	88.4
72.5°	75.9	74.9	75.2	74.9
75°	58.3	56.7	56.7	57.0
77.5°	45.5	45.1	45.8	44.8
80°	35.5	35.2	34.9	35.9
82.5°	25.6	25.6	25.6	26.9
85°	16.6	16.0	16.6	16.0
87.5°	7.4	7.0	6.7	7.0
90°	0.0	0.0	0.0	0.0

TEST NUMBER: P242762

CATALOG NUMBER: S124RDRP-S575D940-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	15.89	17.42	16.26	17.73	18.04	17.71	19.23	18.08	19.55	19.86
	3H	17.12	18.49	17.50	18.81	19.17	19.17	20.53	19.54	20.86	21.22
	4H	17.55	18.83	17.95	19.18	19.56	19.68	20.96	20.08	21.31	21.69
	6H	17.83	19.01	18.24	19.37	19.77	20.03	21.22	20.45	21.58	21.98
	8H	17.91	19.03	18.33	19.42	19.82	20.14	21.26	20.56	21.65	22.05
	12H	17.96	19.03	18.39	19.42	19.84	20.19	21.27	20.63	21.65	22.08
4H	2H	17.15	18.43	17.55	18.78	19.16	18.22	19.50	18.62	19.85	20.23
	3H	18.39	19.45	18.80	19.85	20.25	19.96	21.02	20.37	21.42	21.82
	4H	18.85	19.81	19.29	20.22	20.66	20.59	21.54	21.02	21.96	22.40
	6H	19.18	20.01	19.63	20.45	20.91	21.04	21.87	21.50	22.32	22.78
	8H	19.27	20.05	19.73	20.49	20.96	21.18	21.96	21.64	22.40	22.87
	12H	19.34	20.03	19.82	20.51	20.98	21.27	21.96	21.75	22.44	22.91
8H	4H	19.26	20.03	19.72	20.48	20.94	20.70	21.48	21.16	21.92	22.39
	6H	19.64	20.28	20.14	20.77	21.25	21.24	21.88	21.74	22.37	22.85
	8H	19.78	20.35	20.29	20.86	21.35	21.43	22.01	21.95	22.52	23.01
	12H	19.89	20.40	20.40	20.89	21.45	21.58	22.09	22.09	22.58	23.14
12H	4H	19.29	19.98	19.77	20.46	20.93	20.69	21.38	21.17	21.86	22.33
	6H	19.69	20.26	20.20	20.77	21.26	21.23	21.81	21.74	22.32	22.80
	8H	19.87	20.38	20.38	20.87	21.43	21.46	21.97	21.97	22.46	23.03