

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: G3-1802-639-64

Luminaire Tested: S123RDRP-H775D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: G3-1802-639-64  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-H775D835-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

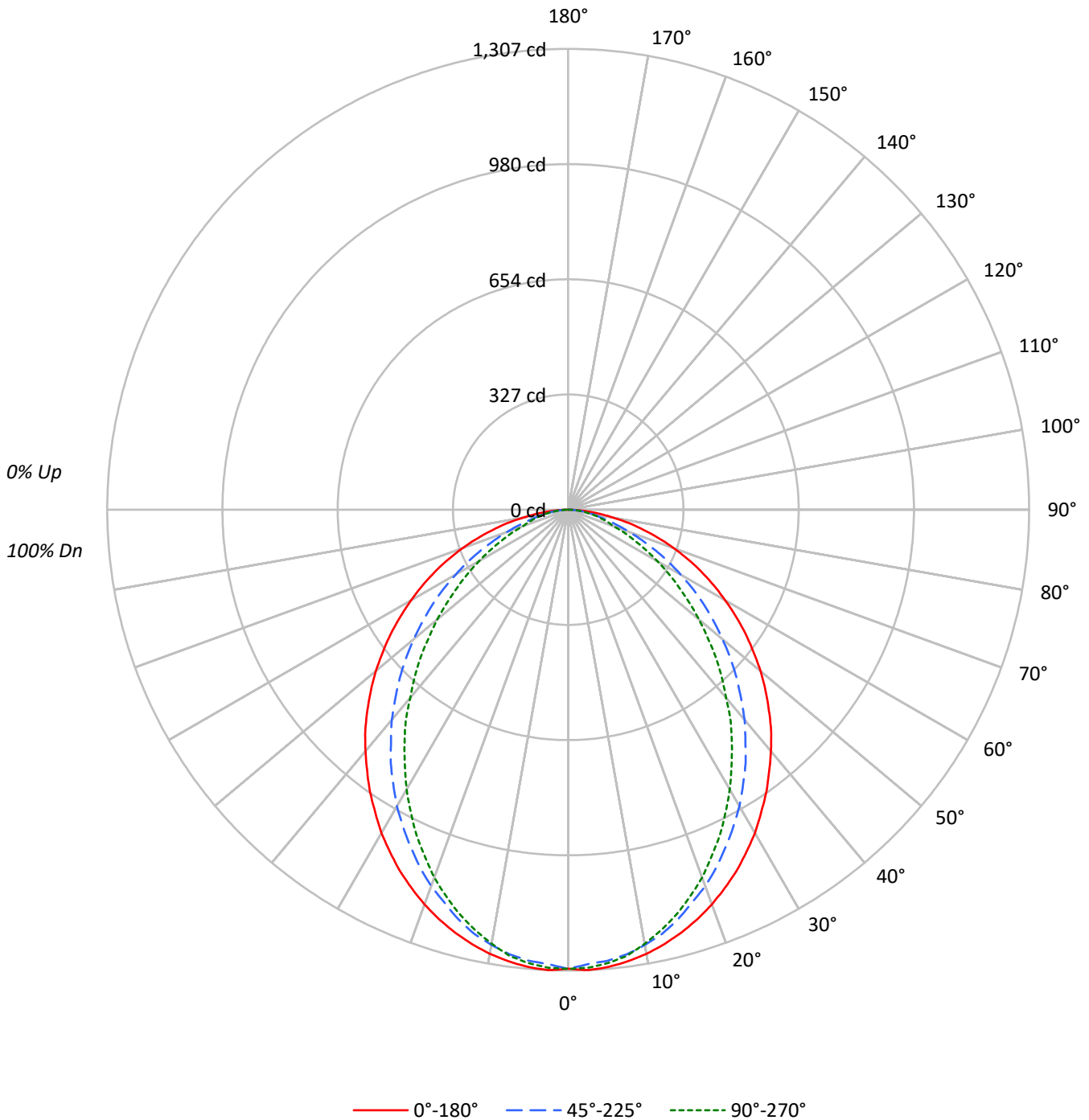
Lumens per Lamp: N/A  
Luminaire Lumens: 2939.7 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 3.9' x H: 0')  
CIE Type: Direct

Input Watts (W): 25.6  
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

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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	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																												
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42																												
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14389	14389	14389
5°	14444	14245	14322
10°	14353	14061	14028
15°	14199	13764	13593
20°	14007	13360	13055
25°	13779	12877	12414
30°	13514	12391	11689
35°	13208	11832	10915
40°	12898	11224	10056
45°	12582	10550	9253
50°	12242	9817	8322
55°	11831	9056	7380
60°	11361	8156	6432
65°	10905	7139	5492
70°	10276	5978	4395
75°	9480	4740	4185
80°	8274	4201	3819
85°	6974	3677	3551

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 12582 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.5	4.2
10°-20°	341.0	11.6
20°-30°	490.9	16.7
30°-40°	553.0	18.8
40°-50°	528.3	18.0
50°-60°	431.9	14.7
60°-70°	290.1	9.9
70°-80°	144.7	4.9
80°-90°	37.4	1.3
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°	954.4	32.5
0°-40°	1507.3	51.3
0°-60°	2467.5	83.9
0°-90°	2939.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2939.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1302	1302	1302	1302	1302	
5°	1302	1297	1284	1294	1291	124
15°	1241	1232	1203	1196	1188	350
25°	1130	1105	1056	1033	1018	520
35°	979	941	877	828	809	612
45°	805	757	675	616	592	621
55°	614	559	470	405	383	548
65°	417	359	273	223	210	412
75°	222	169	111	100	98	235
85°	55	32	29	27	28	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302
2.5°	1307	1304	1300	1301	1302	1303	1303	1302	1299	1295	1290
5°	1302	1299	1295	1295	1297	1297	1297	1296	1293	1289	1284
7.5°	1292	1290	1285	1286	1287	1287	1287	1286	1282	1277	1272
10°	1279	1276	1272	1272	1273	1273	1273	1271	1266	1260	1253
12.5°	1262	1259	1255	1255	1255	1255	1255	1252	1244	1238	1232
15°	1241	1238	1234	1234	1233	1232	1230	1225	1218	1211	1203
17.5°	1218	1214	1209	1208	1207	1206	1203	1200	1190	1180	1168
20°	1191	1187	1182	1181	1178	1175	1173	1167	1156	1144	1136
22.5°	1161	1157	1152	1150	1144	1142	1139	1130	1118	1107	1098
25°	1130	1125	1119	1116	1109	1105	1104	1091	1079	1067	1056
27.5°	1094	1090	1085	1079	1072	1067	1065	1053	1038	1024	1014
30°	1059	1053	1048	1041	1031	1026	1022	1010	997	980	971
32.5°	1018	1014	1008	1001	991	987	981	966	949	937	923
35°	979	975	966	959	945	941	935	922	903	889	877
37.5°	936	931	924	914	902	897	889	876	854	840	825
40°	894	887	879	868	856	851	844	825	807	791	778
42.5°	852	844	834	824	811	804	796	778	758	743	725
45°	805	799	789	777	762	757	748	729	709	693	675
47.5°	759	752	742	730	715	708	699	680	660	640	624
50°	712	705	693	681	667	658	650	631	609	591	571
52.5°	662	656	646	634	616	609	601	580	559	538	520
55°	614	610	598	586	567	559	551	529	508	487	470
57.5°	564	561	549	535	518	510	500	478	458	437	419
60°	514	511	499	485	469	459	448	431	408	389	369
62.5°	466	462	452	437	419	409	399	379	358	338	320
65°	417	412	400	385	368	359	349	330	309	290	273
67.5°	368	363	350	338	318	309	300	281	261	242	226
70°	318	313	303	287	270	261	252	232	214	200	185
72.5°	269	265	255	240	224	215	205	188	172	157	146
75°	222	216	207	193	177	169	162	145	130	120	111
77.5°	177	170	160	149	134	126	119	105	95	88	86
80°	130	129	119	107	94	88	81	72	69	68	66
82.5°	91	87	79	68	58	54	52	50	48	48	46
85°	55	51	44	35	33	32	31	31	30	29	29
87.5°	24	20	15	14	13	13	14	14	14	13	13
90°	0	0	0	0	0	0	0	0	0	0	0

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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1302	1302	1302	1302	1302	1302	1302	1302	1302	1302
2.5°	1292	1297	1300	1301	1301	1301	1302	1302	1301	1300
5°	1285	1290	1292	1294	1294	1294	1294	1294	1293	1291
7.5°	1274	1277	1280	1279	1279	1278	1277	1278	1276	1276
10°	1254	1257	1259	1256	1256	1257	1257	1256	1253	1250
12.5°	1231	1234	1231	1232	1230	1228	1227	1226	1223	1221
15°	1201	1201	1199	1199	1196	1192	1191	1192	1188	1188
17.5°	1168	1166	1163	1161	1160	1160	1156	1156	1151	1150
20°	1132	1130	1127	1122	1120	1121	1117	1114	1111	1110
22.5°	1094	1089	1086	1081	1077	1077	1074	1069	1066	1063
25°	1051	1046	1040	1036	1033	1028	1026	1022	1019	1018
27.5°	1007	999	991	987	985	979	976	974	968	967
30°	960	954	944	937	932	933	926	922	919	916
32.5°	915	905	895	886	880	879	872	868	865	862
35°	864	854	842	834	828	825	818	816	811	809
37.5°	813	802	790	780	776	769	766	761	757	757
40°	763	750	738	726	721	717	709	705	700	697
42.5°	711	696	685	674	667	664	655	650	645	644
45°	659	644	630	619	616	610	601	594	593	592
47.5°	606	591	578	566	562	555	549	544	538	535
50°	555	540	526	513	508	502	496	489	487	484
52.5°	504	487	472	460	456	451	444	438	435	433
55°	452	435	422	410	405	402	394	389	385	383
57.5°	401	384	372	363	356	353	345	340	338	337
60°	353	337	324	315	309	306	300	295	292	291
62.5°	305	291	279	270	266	262	257	253	250	250
65°	259	245	234	227	223	221	215	213	210	210
67.5°	214	204	196	187	184	184	178	176	174	174
70°	175	166	157	152	149	148	143	140	138	136
72.5°	137	129	121	120	120	119	119	117	117	118
75°	105	103	101	101	100	99	99	98	98	98
77.5°	84	83	82	81	81	80	79	79	79	79
80°	64	63	63	62	61	62	61	61	60	60
82.5°	45	45	45	44	44	44	44	43	43	44
85°	28	28	28	28	27	28	27	27	27	28
87.5°	12	13	12	13	13	12	12	12	12	12
90°	0	0	0	0	0	0	0	0	0	0



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**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	20.79	22.34	21.15	22.66	22.97	17.98	19.54	18.35	19.85	20.16
	3H	22.62	24.01	22.99	24.34	24.70	19.06	20.45	19.43	20.78	21.14
	4H	23.30	24.61	23.70	24.96	25.34	19.45	20.77	19.85	21.11	21.49
	6H	23.80	25.01	24.21	25.38	25.77	19.78	20.99	20.19	21.35	21.75
	8H	23.96	25.11	24.38	25.50	25.90	19.88	21.04	20.31	21.43	21.83
	12H	24.06	25.16	24.49	25.54	25.97	19.96	21.07	20.39	21.45	21.88
4H	2H	21.03	22.34	21.43	22.69	23.07	18.70	20.01	19.10	20.36	20.74
	3H	23.02	24.11	23.43	24.51	24.91	19.92	21.01	20.33	21.41	21.81
	4H	23.81	24.79	24.24	25.20	25.64	20.41	21.39	20.84	21.81	22.24
	6H	24.43	25.28	24.88	25.72	26.18	20.83	21.69	21.29	22.13	22.59
	8H	24.63	25.43	25.09	25.87	26.34	20.98	21.77	21.44	22.22	22.68
	12H	24.77	25.49	25.25	25.97	26.44	21.09	21.80	21.57	22.28	22.75
8H	4H	23.85	24.64	24.31	25.09	25.55	20.73	21.53	21.19	21.97	22.44
	6H	24.51	25.17	25.01	25.66	26.14	21.24	21.90	21.74	22.39	22.87
	8H	24.75	25.35	25.27	25.86	26.34	21.45	22.04	21.96	22.55	23.04
	12H	24.95	25.47	25.45	25.96	26.52	21.62	22.14	22.13	22.64	23.20
12H	4H	23.83	24.55	24.32	25.03	25.50	20.77	21.48	21.25	21.96	22.43
	6H	24.50	25.09	25.01	25.60	26.09	21.30	21.89	21.81	22.40	22.89
	8H	24.77	25.30	25.28	25.79	26.35	21.55	22.08	22.06	22.57	23.13