

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: P242571

Luminaire Tested: S123RDRP-S775D835-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242571
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-30)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S775D835-X4F0-XX-UDD-A-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

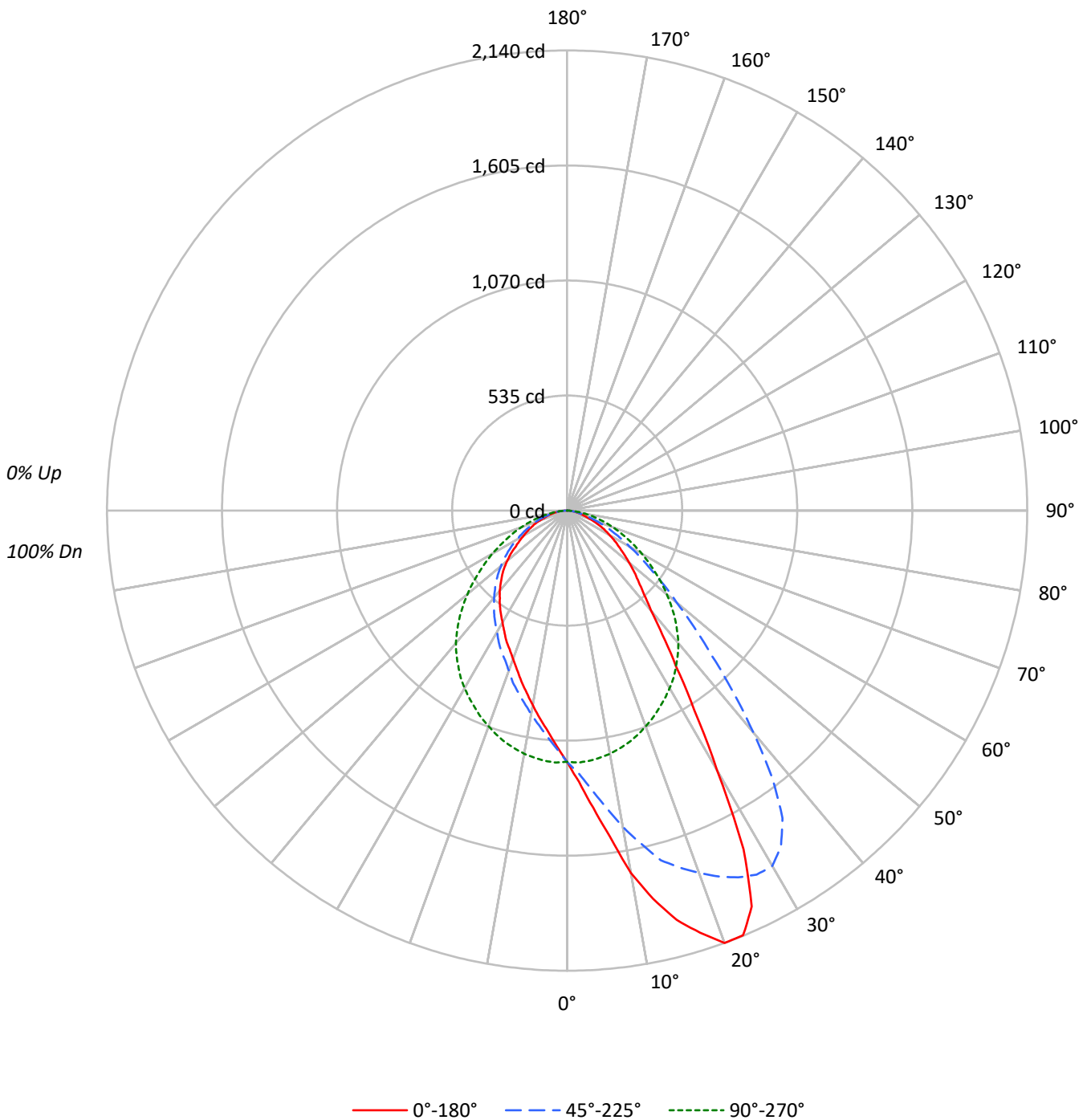
Lumens per Lamp: N/A
Luminaire Lumens: 2908.3 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.22 / 1.35
Luminous Opening: Rectangular (W 3.88' x L: 0.23' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
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: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

Luminous Intensity Polar Plot



TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

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	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	74					74			
3	93	84	76	71	91	82	75	70	79	74	69	77	72	68	74	70	66	64					64			
4	86	75	67	61	84	74	66	61	71	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	53	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44					44			
7	69	56	48	42	67	55	48	42	54	47	42	53	46	42	51	46	41	39					39			
8	64	52	44	38	63	51	43	38	50	43	38	48	42	38	47	42	37	36					36			
9	60	48	40	35	59	47	40	35	46	39	34	45	39	34	44	38	34	32					32			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29					29			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	14158	14158	14158	14158	14158
5°	16876	15830	14218	12837	12520
10°	21072	18388	14136	11828	11311
15°	24734	21120	13992	10999	10315
20°	27604	23128	13776	10223	9468
25°	27163	25170	13548	9683	8947
30°	19525	26705	13339	9126	8412
35°	13036	25836	13066	8745	8065
40°	9605	21298	12738	8363	7706
45°	8057	16251	12162	8005	7354
50°	7109	12531	11409	7571	6864
55°	6234	9996	10545	7122	6192
60°	5552	8158	9721	6545	5673
65°	4876	6683	8834	6037	5277
70°	3828	5369	8045	5546	4820
75°	3372	3957	7025	5011	4402
80°	2932	3385	5968	4398	4328
85°	2364	2573	4798	4450	4589

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 60°
 Vertical Angle: 45°
 Luminance: 22867 cd/sqm



TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.7	3.9
10°-20°	359.1	12.3
20°-30°	565.5	19.4
30°-40°	588.1	20.2
40°-50°	503.1	17.3
50°-60°	383.5	13.2
60°-70°	245.7	8.4
70°-80°	117.7	4.0
80°-90°	31.0	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°	1039.3	35.7
0°-40°	1627.4	56.0
0°-60°	2514.0	86.4
0°-90°	2908.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2908.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1168	1168	1168	1168	1168	
5°	1387	1301	1168	1055	1029	142
15°	1971	1683	1115	876	822	559
25°	2031	1882	1013	724	669	883
35°	881	1746	883	591	545	573
45°	470	948	710	467	429	369
55°	295	473	499	337	293	266
65°	170	233	308	210	184	167
75°	72	84	150	107	94	77
85°	17	18	34	32	33	20
90°	0	0	0	0	0	

TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168
2.5°	1263	1265	1259	1258	1250	1248	1248	1238	1231	1223	1218
5°	1387	1395	1391	1382	1367	1364	1354	1339	1322	1301	1291
7.5°	1529	1546	1543	1529	1513	1503	1476	1455	1422	1393	1370
10°	1712	1701	1692	1678	1664	1640	1612	1574	1529	1494	1455
12.5°	1849	1850	1838	1824	1802	1780	1744	1695	1641	1587	1541
15°	1971	1974	1967	1952	1923	1884	1832	1812	1738	1683	1628
17.5°	2058	2059	2057	2038	2006	1979	1931	1885	1815	1741	1667
20°	2140	2135	2136	2114	2092	2059	2012	1938	1883	1793	1717
22.5°	2138	2138	2143	2139	2124	2101	2067	2007	1933	1842	1754
25°	2031	2027	2051	2057	2083	2087	2076	2042	1975	1882	1776
27.5°	1776	1762	1811	1859	1924	1965	2007	2016	1985	1909	1797
30°	1395	1442	1464	1543	1631	1736	1828	1916	1937	1908	1821
32.5°	1099	1139	1156	1221	1302	1429	1579	1712	1816	1851	1807
35°	881	882	924	954	1030	1156	1290	1456	1621	1746	1759
37.5°	727	729	756	786	847	918	1043	1183	1381	1568	1665
40°	607	612	631	660	701	752	844	974	1133	1346	1521
42.5°	530	538	546	567	588	635	705	798	939	1138	1346
45°	470	474	482	492	515	548	598	666	786	948	1150
47.5°	424	422	430	439	455	479	514	572	662	798	973
50°	377	377	382	389	403	420	447	489	557	665	821
52.5°	333	336	339	348	357	370	394	421	477	566	690
55°	295	297	302	307	314	328	343	368	408	473	581
57.5°	262	262	267	268	277	289	301	321	351	403	478
60°	229	228	232	236	240	249	259	278	301	337	399
62.5°	199	199	202	205	209	217	225	238	255	284	330
65°	170	172	173	175	177	182	190	200	212	233	269
67.5°	140	142	143	146	150	153	157	167	176	195	216
70°	108	108	108	110	115	121	127	134	139	152	169
72.5°	89	88	90	90	92	92	96	102	109	117	128
75°	72	72	72	72	74	75	77	78	81	85	94
77.5°	56	56	57	58	58	59	60	61	62	64	69
80°	42	43	42	43	43	44	44	46	46	49	50
82.5°	29	29	29	30	30	31	31	32	32	33	34
85°	17	16	17	17	18	17	17	18	18	19	21
87.5°	5	6	5	6	6	6	6	6	7	7	7
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168
2.5°	1216	1214	1207	1199	1189	1182	1176	1173	1164	1153	1146
5°	1281	1266	1250	1230	1212	1194	1182	1169	1152	1134	1121
7.5°	1345	1319	1291	1261	1231	1205	1180	1160	1135	1110	1092
10°	1422	1379	1334	1289	1247	1208	1178	1149	1117	1087	1064
12.5°	1491	1431	1378	1320	1264	1215	1169	1133	1093	1060	1033
15°	1548	1490	1428	1343	1272	1213	1161	1115	1069	1029	1004
17.5°	1607	1519	1437	1371	1279	1208	1146	1093	1043	1002	970
20°	1641	1556	1466	1375	1285	1203	1128	1068	1016	968	939
22.5°	1661	1563	1466	1367	1270	1184	1110	1043	985	940	902
25°	1676	1562	1457	1361	1264	1171	1083	1013	952	903	865
27.5°	1688	1556	1436	1331	1233	1138	1059	984	923	872	831
30°	1691	1549	1410	1295	1194	1109	1024	953	887	833	795
32.5°	1695	1530	1376	1251	1148	1064	989	922	854	800	761
35°	1681	1526	1341	1200	1097	1015	946	883	817	765	725
37.5°	1639	1501	1306	1142	1036	961	903	846	784	727	691
40°	1567	1461	1264	1091	978	901	850	805	746	694	654
42.5°	1461	1407	1224	1037	913	839	798	757	707	654	617
45°	1326	1334	1166	979	854	779	739	710	664	620	581
47.5°	1162	1233	1105	918	790	720	684	658	626	580	545
50°	1002	1115	1028	856	731	661	626	605	578	544	511
52.5°	854	978	935	788	666	604	570	554	534	502	473
55°	721	844	832	719	602	544	518	499	485	461	437
57.5°	605	724	727	642	546	487	465	450	440	421	397
60°	496	604	625	565	485	435	413	401	394	379	362
62.5°	406	494	518	479	426	380	364	353	349	337	322
65°	325	401	424	400	369	332	318	308	304	297	286
67.5°	256	315	340	320	309	282	273	267	263	258	249
70°	196	237	263	259	250	237	231	227	223	219	211
72.5°	148	173	197	201	194	194	189	188	186	181	177
75°	105	124	141	148	151	153	151	150	150	146	143
77.5°	73	85	97	108	112	116	116	118	117	114	113
80°	53	55	63	72	80	83	85	86	85	85	83
82.5°	35	37	39	45	51	57	58	57	59	59	58
85°	21	21	22	23	27	32	34	35	36	36	33
87.5°	8	8	9	9	10	11	14	16	17	15	15
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168	1168
2.5°	1143	1137	1132	1122	1116	1109	1102	1106	1106	1105	1105
5°	1110	1098	1088	1074	1066	1055	1047	1046	1048	1041	1037
7.5°	1078	1063	1048	1034	1019	1007	999	996	991	986	982
10°	1045	1026	1012	993	976	961	952	945	942	938	932
12.5°	1010	992	973	951	935	917	911	903	896	892	882
15°	977	953	934	912	894	877	867	852	850	845	836
17.5°	944	918	890	875	857	839	823	818	803	798	790
20°	904	881	860	839	809	793	781	774	763	756	751
22.5°	870	846	821	795	772	753	745	734	729	719	713
25°	837	811	783	756	738	724	710	701	692	688	678
27.5°	798	772	744	723	703	689	676	668	657	649	644
30°	766	734	711	693	665	652	643	633	625	617	611
32.5°	730	701	680	656	636	622	609	600	594	586	581
35°	691	667	644	621	606	591	577	569	563	556	551
37.5°	656	633	612	590	571	559	547	542	533	528	523
40°	624	602	579	558	538	529	518	510	502	498	493
42.5°	589	567	548	525	510	497	487	478	472	467	464
45°	555	535	516	493	478	467	456	448	442	439	433
47.5°	522	501	482	462	447	435	424	418	411	407	403
50°	485	467	447	429	414	402	393	385	379	373	371
52.5°	452	432	415	399	383	369	361	353	348	342	339
55°	414	396	381	364	349	337	327	320	315	308	304
57.5°	380	364	345	331	314	305	297	287	281	275	271
60°	345	326	310	297	283	270	263	255	249	243	240
62.5°	308	292	278	263	250	240	231	225	219	216	213
65°	271	258	243	231	219	211	204	198	194	192	189
67.5°	236	224	210	198	190	183	178	173	171	168	166
70°	203	190	178	169	161	157	154	150	148	144	142
72.5°	166	158	150	143	137	133	129	125	121	117	115
75°	137	128	122	117	113	107	102	97	96	94	94
77.5°	107	101	96	92	87	82	80	79	79	78	78
80°	80	75	71	66	63	63	63	62	63	63	63
82.5°	54	50	48	47	47	48	48	48	48	49	48
85°	31	31	32	32	32	32	33	33	33	32	33
87.5°	14	16	16	17	17	17	17	17	18	18	18
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242571

CATALOG NUMBER: S123RDRP-S775D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1168	1168	1168	1168
2.5°	1099	1099	1099	1097
5°	1036	1035	1034	1029
7.5°	978	977	973	974
10°	928	929	923	919
12.5°	880	877	872	868
15°	838	833	821	822
17.5°	787	783	782	775
20°	743	740	741	734
22.5°	708	706	700	699
25°	675	671	667	669
27.5°	641	638	633	633
30°	609	606	604	601
32.5°	576	576	572	572
35°	549	546	545	545
37.5°	522	518	516	514
40°	493	489	488	487
42.5°	461	460	459	457
45°	432	431	428	429
47.5°	401	398	397	398
50°	369	368	363	364
52.5°	337	332	331	330
55°	301	296	294	293
57.5°	265	264	262	263
60°	235	235	235	234
62.5°	211	210	209	210
65°	187	187	185	184
67.5°	165	163	163	162
70°	140	139	136	136
72.5°	112	111	111	110
75°	93	93	92	94
77.5°	78	78	78	77
80°	63	63	62	62
82.5°	47	48	48	47
85°	33	33	34	33
87.5°	19	18	18	18
90°	0	0	0	0



TEST NUMBER: P242571
 CATALOG NUMBER: S123RDRP-S775D835-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	16.85	18.34	17.21	18.65	18.97	20.24	21.74	20.61	22.05	22.36
	3H	17.94	19.28	18.32	19.60	19.97	21.65	22.99	22.03	23.32	23.68
	4H	18.27	19.53	18.67	19.88	20.26	22.15	23.40	22.55	23.75	24.13
	6H	18.52	19.68	18.93	20.04	20.44	22.50	23.66	22.92	24.03	24.42
	8H	18.59	19.69	19.02	20.08	20.48	22.60	23.70	23.03	24.09	24.50
	12H	18.63	19.68	19.06	20.06	20.49	22.67	23.72	23.10	24.10	24.53
4H	2H	17.82	19.08	18.23	19.43	19.81	20.48	21.73	20.88	22.08	22.46
	3H	18.99	20.03	19.41	20.43	20.83	22.17	23.21	22.58	23.61	24.01
	4H	19.38	20.31	19.82	20.73	21.17	22.79	23.72	23.22	24.14	24.58
	6H	19.69	20.50	20.15	20.95	21.41	23.25	24.06	23.71	24.51	24.97
	8H	19.78	20.54	20.25	20.98	21.45	23.40	24.15	23.86	24.60	25.07
	12H	19.84	20.51	20.32	20.99	21.47	23.50	24.17	23.98	24.65	25.12
8H	4H	19.75	20.50	20.21	20.95	21.42	22.84	23.60	23.30	24.04	24.51
	6H	20.12	20.75	20.62	21.24	21.72	23.38	24.00	23.87	24.49	24.97
	8H	20.25	20.81	20.77	21.32	21.81	23.57	24.13	24.08	24.64	25.13
	12H	20.35	20.85	20.86	21.34	21.91	23.73	24.22	24.24	24.71	25.28
12H	4H	19.78	20.45	20.26	20.93	21.40	22.83	23.50	23.31	23.98	24.45
	6H	20.17	20.73	20.68	21.24	21.73	23.36	23.92	23.88	24.43	24.92
	8H	20.34	20.84	20.85	21.33	21.89	23.59	24.09	24.11	24.58	25.15