

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: P242743

Luminaire Tested: S124RDRP-S795D835-X4F0-XX-UDD-A-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242743
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-S795D835-X4F0-XX-UDD-A-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

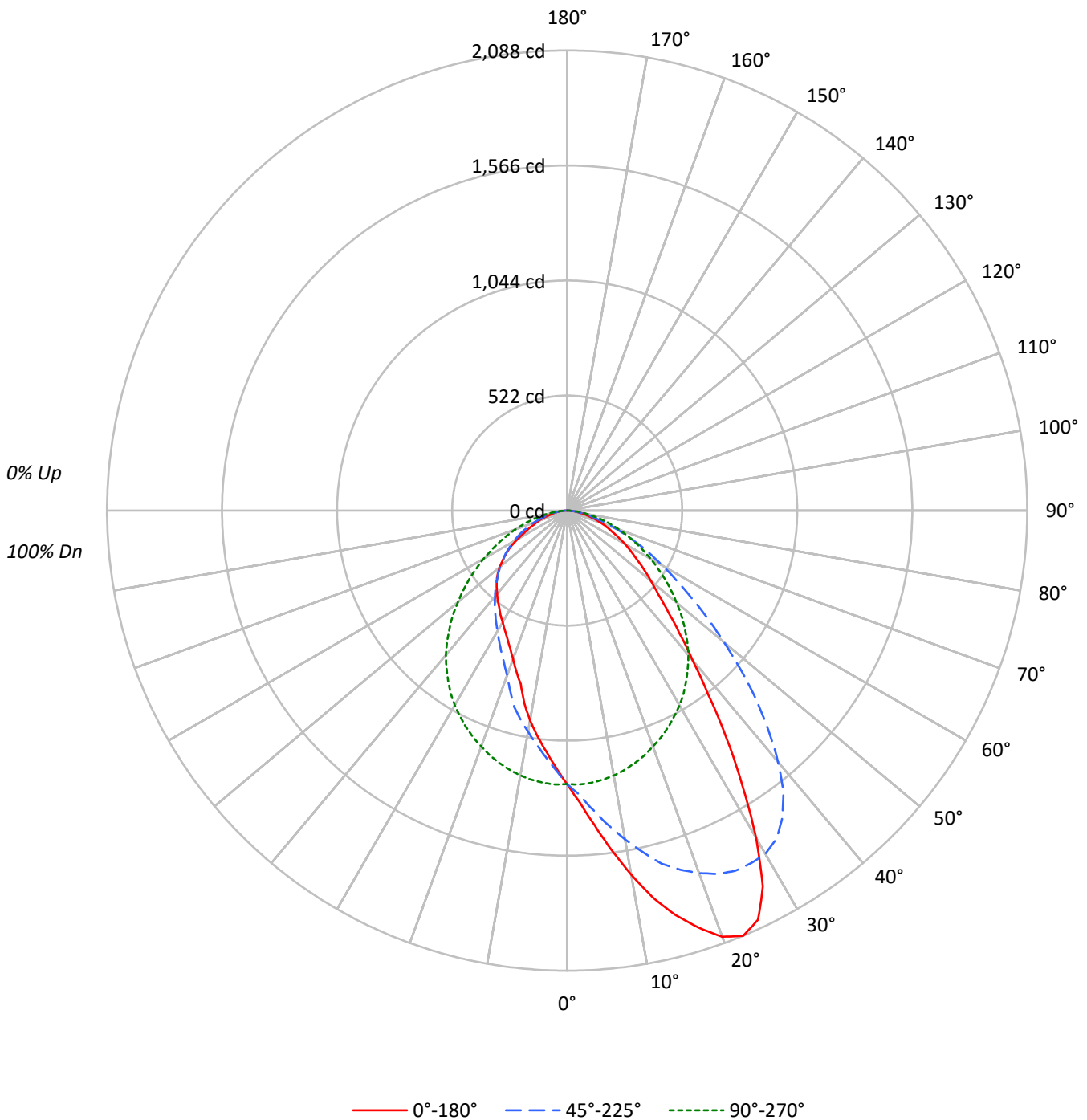
Lumens per Lamp: N/A
Luminaire Lumens: 3137.1 lumens
Efficiency: N/A
Efficacy: 119.3 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 3.88' x L: 0.31' x H: 0')
CIE Type: Direct

Input Watts (W): 26.3
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: P242743

CATALOG NUMBER: S124RDRP-S795D835-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	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°	11031	11031	11031	11031	11031
5°	12795	12180	11064	10011	9779
10°	15137	13674	11016	9202	8728
15°	17485	15267	10914	8503	7500
20°	19467	16554	10774	7520	6782
25°	20096	17693	10637	6929	6297
30°	17593	18455	10469	6492	6004
35°	13694	18464	10222	6164	5827
40°	10269	17272	9939	5900	5732
45°	8108	15242	9485	5676	5682
50°	6845	12826	8961	5483	5518
55°	5966	10631	8384	5277	5223
60°	5369	8898	7787	4978	4622
65°	4732	7414	7141	4638	3975
70°	4262	5926	6471	4184	3587
75°	3572	4602	5735	3675	3057
80°	3020	3481	4889	3046	2867
85°	2550	2754	3825	2703	2550

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 55°
 Vertical Angle: 45°
 Luminance: 16279 cd/sqm



TEST NUMBER: P242743

CATALOG NUMBER: S124RDRP-S795D835-X4F0-XX-UDD-A-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.2	3.8
10°-20°	362.9	11.6
20°-30°	568.4	18.1
30°-40°	631.2	20.1
40°-50°	559.4	17.8
50°-60°	435.9	13.9
60°-70°	285.1	9.1
70°-80°	139.9	4.5
80°-90°	34.1	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°	1051.5	33.5
0°-40°	1682.7	53.6
0°-60°	2678.0	85.4
0°-90°	3137.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3137.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1241	1241	1241	1241	1241	
5°	1434	1365	1240	1122	1096	144
15°	1900	1659	1186	924	815	540
25°	2049	1804	1084	706	642	915
35°	1262	1702	942	568	537	790
45°	645	1212	754	452	452	509
55°	385	686	541	340	337	350
65°	225	352	340	220	189	226
75°	104	134	167	107	89	114
85°	25	27	38	26	25	29
90°	0	0	0	0	0	



TEST NUMBER: P242743

CATALOG NUMBER: S124RDRP-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241
2.5°	1326	1331	1326	1326	1321	1319	1317	1311	1299	1292	1293
5°	1434	1447	1440	1439	1428	1417	1410	1394	1377	1365	1356
7.5°	1554	1562	1557	1551	1532	1526	1510	1491	1462	1441	1421
10°	1677	1683	1681	1668	1655	1629	1614	1584	1546	1515	1487
12.5°	1798	1805	1783	1787	1760	1740	1714	1675	1629	1588	1550
15°	1900	1892	1892	1882	1855	1826	1801	1762	1706	1659	1610
17.5°	1984	1988	1984	1958	1938	1909	1865	1820	1772	1709	1660
20°	2058	2058	2054	2038	2010	1978	1929	1880	1814	1750	1693
22.5°	2088	2090	2085	2072	2048	2017	1977	1927	1858	1785	1711
25°	2049	2059	2060	2056	2049	2030	1994	1943	1882	1804	1728
27.5°	1923	1936	1941	1952	1972	1980	1975	1941	1882	1805	1730
30°	1714	1724	1757	1799	1832	1862	1888	1895	1865	1798	1718
32.5°	1482	1497	1529	1576	1636	1692	1759	1794	1801	1767	1694
35°	1262	1272	1302	1350	1416	1492	1584	1656	1705	1702	1656
37.5°	1051	1065	1096	1135	1200	1297	1384	1481	1569	1612	1589
40°	885	886	915	956	1016	1098	1195	1305	1406	1489	1505
42.5°	754	754	771	816	855	931	1023	1132	1254	1353	1402
45°	645	650	666	692	726	791	866	967	1100	1213	1283
47.5°	559	567	577	601	629	674	738	833	943	1068	1166
50°	495	496	509	521	545	579	633	709	808	928	1039
52.5°	440	440	446	462	480	505	546	614	699	803	919
55°	385	388	394	406	420	439	474	526	595	686	791
57.5°	343	345	350	355	369	383	411	448	509	585	688
60°	302	303	304	312	322	335	353	383	432	501	578
62.5°	262	263	266	271	278	286	305	328	366	422	490
65°	225	226	229	231	238	246	259	276	304	353	405
67.5°	194	194	194	197	202	208	217	231	253	285	334
70°	164	164	165	167	169	174	178	188	204	228	264
72.5°	136	137	138	138	139	142	145	151	161	178	205
75°	104	106	108	110	113	112	116	120	123	134	151
77.5°	82	81	81	83	84	84	87	90	93	99	105
80°	59	59	61	61	61	61	64	65	66	68	74
82.5°	41	42	41	42	42	43	45	45	46	46	48
85°	25	26	26	25	25	25	26	27	28	27	28
87.5°	11	11	11	11	12	11	12	13	12	12	12
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242743

CATALOG NUMBER: S124RDRP-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241
2.5°	1288	1281	1278	1270	1260	1255	1251	1244	1236	1227	1220
5°	1344	1332	1317	1299	1283	1267	1254	1240	1225	1209	1193
7.5°	1399	1377	1354	1327	1300	1276	1254	1232	1208	1186	1165
10°	1457	1425	1389	1352	1314	1282	1250	1221	1189	1160	1136
12.5°	1504	1465	1420	1371	1324	1283	1245	1205	1168	1136	1102
15°	1557	1505	1448	1392	1333	1280	1230	1186	1145	1101	1071
17.5°	1593	1534	1466	1401	1334	1272	1216	1165	1117	1074	1038
20°	1625	1558	1480	1404	1326	1259	1197	1139	1090	1042	1004
22.5°	1643	1567	1480	1399	1318	1244	1175	1114	1059	1011	968
25°	1644	1564	1478	1386	1298	1220	1150	1085	1025	977	933
27.5°	1640	1548	1461	1367	1277	1194	1122	1052	993	942	897
30°	1628	1527	1432	1334	1242	1164	1086	1020	958	904	859
32.5°	1602	1502	1398	1297	1204	1122	1050	983	922	867	818
35°	1566	1465	1354	1251	1159	1075	1006	942	884	825	774
37.5°	1525	1419	1309	1196	1105	1025	961	899	842	789	732
40°	1461	1366	1252	1140	1046	970	911	857	799	746	690
42.5°	1383	1306	1191	1078	986	913	859	806	755	704	645
45°	1295	1234	1126	1018	925	852	802	755	709	660	604
47.5°	1197	1152	1058	945	858	791	743	704	663	614	564
50°	1094	1068	978	877	794	734	684	648	616	569	525
52.5°	984	973	901	805	726	667	627	595	562	525	485
55°	872	880	815	732	657	607	568	541	513	480	449
57.5°	756	784	736	661	588	541	512	488	464	436	408
60°	653	676	652	587	526	483	456	438	415	390	369
62.5°	553	578	566	517	461	426	403	387	371	350	328
65°	473	489	482	446	405	374	352	340	324	308	289
67.5°	378	410	405	385	346	321	305	294	279	267	254
70°	298	326	326	310	291	268	258	249	236	225	214
72.5°	230	256	261	250	238	222	213	207	195	188	180
75°	171	190	195	195	189	180	171	167	158	151	146
77.5°	120	133	141	142	143	139	131	128	121	119	113
80°	79	87	96	99	102	101	98	96	89	87	85
82.5°	49	52	59	67	65	69	66	65	60	60	58
85°	29	29	30	35	37	38	39	38	36	36	33
87.5°	12	12	13	13	13	15	17	17	16	14	13
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242743

CATALOG NUMBER: S124RDRP-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241	1241
2.5°	1213	1208	1202	1194	1185	1177	1174	1177	1178	1174	1174
5°	1182	1169	1159	1144	1132	1122	1115	1112	1113	1105	1103
7.5°	1147	1133	1117	1100	1084	1070	1062	1059	1050	1047	1041
10°	1113	1093	1077	1056	1037	1020	1011	1004	996	992	983
12.5°	1079	1055	1037	1015	995	973	965	951	936	927	915
15°	1047	1019	997	971	948	924	903	879	870	851	840
17.5°	1009	980	956	922	888	859	835	810	796	783	778
20°	971	945	908	868	828	795	777	762	747	738	732
22.5°	936	901	856	812	772	748	733	718	706	698	690
25°	895	852	806	756	729	707	690	677	670	659	655
27.5°	856	803	752	718	690	668	653	644	634	627	621
30°	809	755	710	678	650	633	621	610	602	597	593
32.5°	762	709	673	638	617	600	587	580	574	567	565
35°	718	670	637	606	583	568	558	550	545	543	541
37.5°	674	635	598	573	552	540	527	523	520	515	517
40°	633	597	565	538	522	509	502	497	494	494	494
42.5°	598	562	532	508	492	481	473	469	469	468	471
45°	561	528	497	477	463	452	447	444	444	446	446
47.5°	524	493	468	445	432	425	421	419	419	421	423
50°	490	460	435	415	403	397	393	392	393	393	397
52.5°	454	427	403	387	373	367	366	364	365	367	368
55°	418	394	371	355	345	341	336	337	336	337	337
57.5°	382	361	338	325	317	311	306	307	306	306	305
60°	348	324	307	295	285	280	276	277	275	274	272
62.5°	310	291	275	264	257	251	246	245	241	237	232
65°	274	258	243	233	225	221	217	214	207	199	195
67.5°	239	227	213	204	198	192	185	180	172	167	165
70°	205	193	182	173	167	161	154	150	145	143	141
72.5°	172	162	151	144	137	133	127	124	122	122	119
75°	139	131	123	116	110	107	105	102	101	97	94
77.5°	107	101	96	91	87	85	80	76	74	72	71
80°	79	75	70	67	62	60	58	57	57	56	56
82.5°	55	51	46	44	44	43	42	41	41	41	41
85°	30	28	28	28	27	27	26	26	26	26	26
87.5°	13	12	12	11	12	12	11	11	12	11	11
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242743

CATALOG NUMBER: S124RDRP-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1241	1241	1241	1241
2.5°	1171	1172	1168	1167
5°	1099	1098	1096	1096
7.5°	1037	1034	1036	1032
10°	981	976	971	967
12.5°	905	900	894	896
15°	833	826	814	815
17.5°	769	770	763	765
20°	722	718	719	717
22.5°	689	684	680	676
25°	651	648	643	642
27.5°	617	617	615	612
30°	589	588	587	585
32.5°	563	563	562	562
35°	539	539	538	537
37.5°	517	518	517	517
40°	493	494	495	494
42.5°	474	474	475	473
45°	450	453	452	452
47.5°	424	428	428	428
50°	399	398	400	399
52.5°	369	369	369	368
55°	337	338	337	337
57.5°	304	302	303	302
60°	267	263	262	260
62.5°	226	224	220	222
65°	191	189	187	189
67.5°	162	161	161	160
70°	141	139	139	138
72.5°	119	117	118	117
75°	91	89	89	89
77.5°	71	71	72	70
80°	56	55	55	56
82.5°	40	40	40	42
85°	26	25	26	25
87.5°	12	11	11	11
90°	0	0	0	0

TEST NUMBER: P242743

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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	17.44	18.97	17.81	19.28	19.59	19.26	20.78	19.63	21.10	21.41
	3H	18.67	20.04	19.05	20.36	20.72	20.72	22.08	21.09	22.41	22.77
	4H	19.10	20.38	19.50	20.73	21.11	21.23	22.51	21.63	22.86	23.24
	6H	19.38	20.56	19.79	20.92	21.32	21.58	22.77	22.00	23.13	23.52
	8H	19.46	20.58	19.88	20.97	21.37	21.68	22.81	22.11	23.20	23.60
	12H	19.51	20.58	19.94	20.97	21.39	21.74	22.82	22.17	23.20	23.63
4H	2H	18.70	19.98	19.10	20.33	20.71	19.77	21.05	20.17	21.40	21.78
	3H	19.94	21.00	20.35	21.40	21.80	21.51	22.57	21.92	22.97	23.37
	4H	20.40	21.36	20.84	21.77	22.21	22.14	23.09	22.57	23.51	23.95
	6H	20.73	21.56	21.18	22.00	22.46	22.59	23.42	23.05	23.87	24.33
	8H	20.82	21.60	21.28	22.04	22.51	22.73	23.50	23.19	23.95	24.42
	12H	20.89	21.58	21.37	22.06	22.53	22.82	23.51	23.30	23.99	24.46
8H	4H	20.80	21.58	21.27	22.02	22.49	22.25	23.02	22.71	23.47	23.94
	6H	21.19	21.83	21.69	22.32	22.80	22.79	23.43	23.29	23.92	24.40
	8H	21.33	21.90	21.84	22.41	22.90	22.98	23.56	23.50	24.07	24.55
	12H	21.44	21.95	21.95	22.44	23.00	23.13	23.64	23.64	24.13	24.69
12H	4H	20.84	21.53	21.32	22.01	22.48	22.24	22.93	22.72	23.41	23.88
	6H	21.24	21.81	21.75	22.32	22.81	22.78	23.36	23.29	23.87	24.35
	8H	21.42	21.93	21.93	22.42	22.98	23.01	23.52	23.52	24.01	24.57