

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P242640

Luminaire Tested: **S124DR-S795D835-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242640
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 (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DR-S795D835-X4F0-XX-UDD-A-W
Description: DEFINE 4 DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3330.6 lumens
Efficiency: N/A
Efficacy: 126.2 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

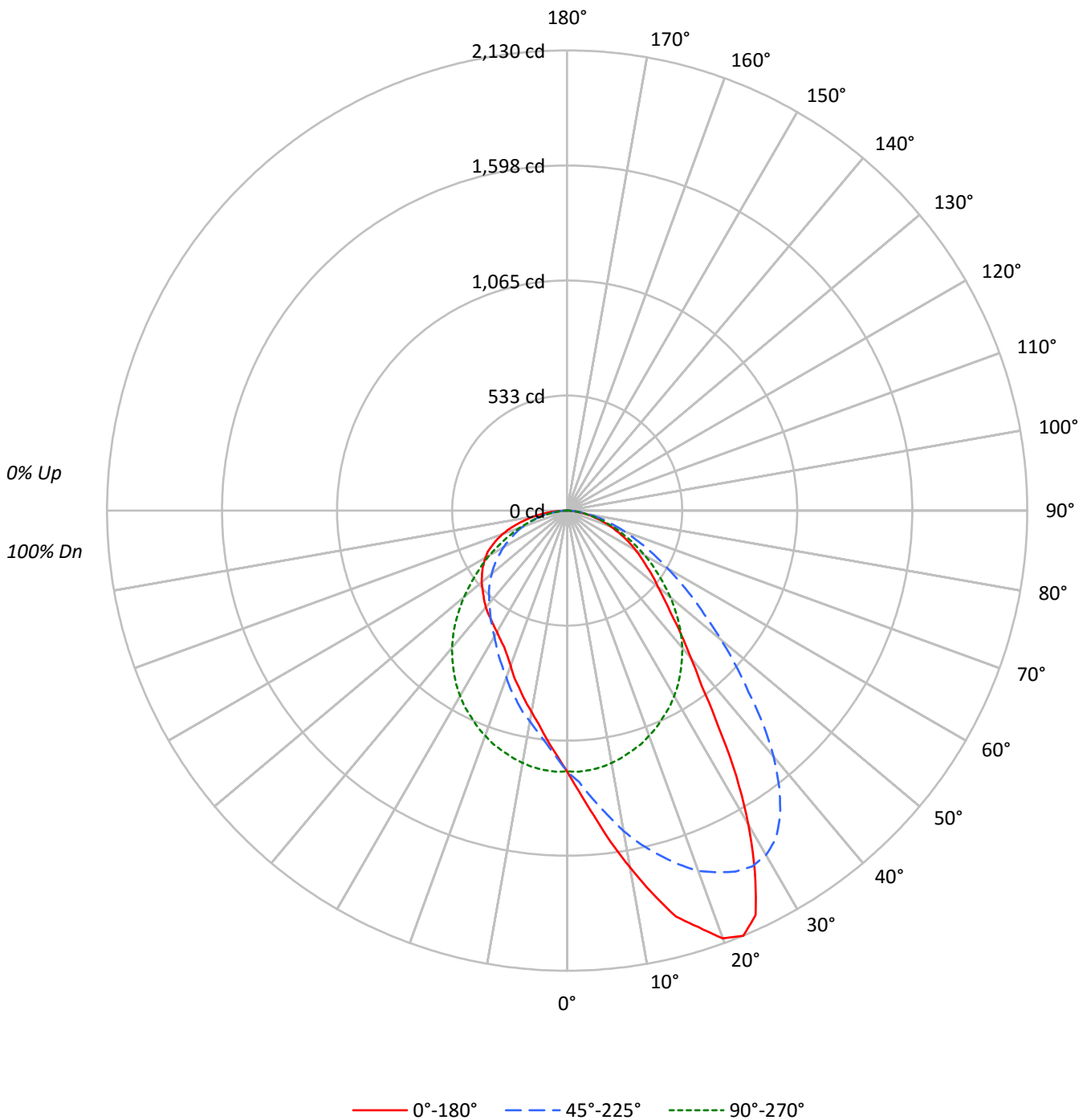
Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P242640

CATALOG NUMBER: S124DR-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62
4	84	73	64	58	82	72	64	58	69	62	57	67	61	56	65	60	55	53
5	78	65	57	50	76	64	56	50	62	55	50	60	54	49	58	53	49	46
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	52	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	40	35	45	39	35	33
9	58	45	37	32	57	45	37	32	44	37	32	43	36	32	42	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10729	10729	10729
5°	12635	10757	9494
10°	15128	10709	8548
15°	17899	10601	7850
20°	19931	10490	7227
25°	20253	10328	6797
30°	17233	10172	6661
35°	13250	9918	6663
40°	10327	9619	6788
45°	8611	9170	6901
50°	7578	8622	7136
55°	6943	7966	7423
60°	6507	7378	7769
65°	6057	6720	8056
70°	5536	6069	8239
75°	4946	5341	8140
80°	4146	4377	7883
85°	3060	3162	7547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.5	3.5
10°-20°	362.6	10.9
20°-30°	576.0	17.3
30°-40°	640.0	19.2
40°-50°	582.1	17.5
50°-60°	475.6	14.3
60°-70°	339.5	10.2
70°-80°	186.8	5.6
80°-90°	50.5	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°	1056.1	31.7
0°-40°	1696.1	50.9
0°-60°	2753.8	82.7
0°-90°	3330.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3330.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1207	1207	1207	1207	1207	
5°	1416	1338	1206	1084	1064	143
15°	1945	1650	1152	908	853	550
25°	2065	1844	1053	746	693	916
35°	1221	1720	914	616	614	773
45°	685	1187	730	511	549	538
55°	448	714	514	400	479	404
65°	288	398	320	278	383	285
75°	144	186	156	154	237	153
85°	30	38	31	44	74	37
90°	0	0	0	0	0	



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CATALOG NUMBER: S124DR-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207
2.5°	1304	1304	1299	1298	1294	1290	1289	1281	1265	1257	1255
5°	1416	1426	1413	1411	1409	1393	1384	1374	1351	1338	1327
7.5°	1547	1548	1542	1537	1527	1513	1494	1472	1446	1419	1400
10°	1676	1680	1674	1673	1647	1631	1599	1572	1541	1507	1475
12.5°	1812	1804	1802	1775	1776	1743	1705	1677	1625	1584	1539
15°	1945	1934	1927	1898	1883	1843	1803	1773	1710	1651	1606
17.5°	2022	2036	2018	2006	1966	1940	1900	1838	1791	1717	1666
20°	2107	2108	2099	2087	2057	2021	1977	1907	1849	1775	1697
22.5°	2130	2130	2128	2116	2096	2068	2024	1968	1894	1813	1735
25°	2065	2063	2068	2081	2072	2063	2038	1994	1928	1844	1760
27.5°	1881	1894	1921	1953	1976	1997	1995	1977	1930	1857	1767
30°	1679	1696	1715	1747	1809	1845	1884	1913	1897	1841	1759
32.5°	1457	1458	1489	1526	1582	1658	1726	1793	1822	1800	1735
35°	1221	1228	1259	1295	1364	1448	1541	1624	1692	1720	1685
37.5°	1023	1045	1068	1109	1173	1248	1348	1452	1552	1613	1620
40°	890	903	918	948	1000	1074	1157	1280	1388	1486	1518
42.5°	785	791	799	825	862	935	1009	1114	1223	1345	1404
45°	685	693	709	724	754	805	876	965	1074	1187	1286
47.5°	610	615	625	642	669	704	764	839	946	1056	1162
50°	548	552	560	575	594	624	671	741	820	931	1034
52.5°	499	500	505	514	529	553	589	644	716	812	915
55°	448	450	455	463	476	492	522	565	629	715	804
57.5°	406	408	412	415	427	441	465	496	546	622	704
60°	366	365	370	373	380	391	409	438	481	539	613
62.5°	327	326	330	333	337	346	359	381	413	465	526
65°	288	286	289	293	297	302	312	333	360	398	447
67.5°	248	251	251	253	256	263	270	286	306	337	380
70°	213	214	216	216	217	223	229	238	257	285	318
72.5°	178	181	179	181	182	186	190	198	213	232	259
75°	144	146	146	146	148	149	153	159	170	186	205
77.5°	111	111	112	114	114	117	120	124	131	142	155
80°	81	82	82	83	83	85	86	92	94	101	111
82.5°	54	55	55	57	58	58	59	61	63	69	72
85°	30	31	30	31	33	33	35	35	37	39	42
87.5°	11	13	13	13	14	15	15	15	17	17	19
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242640

CATALOG NUMBER: S124DR-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207
2.5°	1256	1249	1244	1240	1229	1222	1217	1210	1202	1194	1183
5°	1317	1300	1287	1268	1250	1235	1220	1206	1189	1170	1157
7.5°	1379	1356	1324	1300	1270	1245	1222	1199	1174	1150	1127
10°	1438	1406	1370	1327	1287	1252	1219	1187	1156	1125	1098
12.5°	1502	1459	1402	1350	1304	1254	1212	1171	1132	1099	1067
15°	1557	1499	1437	1371	1312	1256	1202	1152	1110	1067	1037
17.5°	1592	1520	1454	1384	1316	1247	1190	1135	1083	1041	1003
20°	1627	1555	1467	1398	1313	1241	1173	1109	1054	1009	970
22.5°	1657	1571	1483	1386	1302	1224	1148	1084	1028	979	942
25°	1664	1568	1473	1382	1286	1196	1128	1053	993	943	903
27.5°	1666	1565	1460	1361	1262	1179	1091	1026	964	910	872
30°	1661	1554	1439	1329	1230	1138	1064	991	928	875	835
32.5°	1643	1531	1412	1294	1190	1101	1024	956	894	842	800
35°	1606	1497	1370	1250	1144	1054	985	914	852	803	762
37.5°	1557	1455	1326	1201	1099	1007	938	873	817	766	724
40°	1488	1401	1272	1150	1038	952	888	829	774	726	687
42.5°	1408	1335	1219	1088	981	894	832	781	730	687	647
45°	1311	1261	1149	1030	917	835	776	730	686	643	610
47.5°	1202	1174	1077	963	855	773	721	677	637	600	570
50°	1093	1081	999	890	788	712	660	624	591	559	531
52.5°	985	987	916	818	726	653	602	568	541	516	492
55°	874	888	831	742	657	591	545	514	494	473	454
57.5°	773	796	746	665	593	530	489	466	444	430	415
60°	674	696	659	593	526	474	436	415	397	388	378
62.5°	586	605	580	520	464	415	384	364	353	343	338
65°	503	519	496	451	402	362	335	320	308	304	297
67.5°	421	436	423	384	342	311	290	273	266	262	258
70°	349	364	351	318	287	262	242	234	226	225	218
72.5°	289	298	284	260	235	215	201	192	189	186	183
75°	226	235	226	206	187	172	159	156	151	150	147
77.5°	169	178	171	157	143	130	123	118	117	114	115
80°	122	127	121	112	101	93	88	86	83	82	84
82.5°	79	81	78	73	66	61	58	55	55	56	55
85°	46	45	45	40	37	34	32	31	31	32	33
87.5°	19	20	19	17	16	14	14	13	14	14	15
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242640

CATALOG NUMBER: S124DR-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207	1207
2.5°	1178	1174	1167	1158	1151	1143	1141	1138	1144	1139	1137
5°	1145	1135	1121	1106	1097	1084	1081	1076	1071	1071	1066
7.5°	1111	1096	1079	1063	1049	1035	1026	1025	1017	1013	1008
10°	1078	1059	1038	1023	1006	991	981	975	970	964	959
12.5°	1039	1018	1002	986	965	954	935	924	924	925	910
15°	1010	990	964	941	930	908	899	887	879	872	866
17.5°	975	951	931	905	884	868	855	848	836	825	818
20°	943	916	895	867	844	822	812	802	793	784	776
22.5°	910	882	854	827	806	783	773	759	751	747	738
25°	875	845	815	789	767	747	733	723	714	710	704
27.5°	837	807	779	749	723	709	698	689	684	678	675
30°	801	770	739	711	688	674	664	658	654	652	649
32.5°	764	734	701	676	656	644	637	631	630	629	629
35°	725	694	664	641	622	617	610	607	606	610	611
37.5°	687	658	630	607	594	586	584	583	587	590	593
40°	650	622	596	577	565	561	560	562	566	570	574
42.5°	615	587	564	547	539	535	536	539	545	549	556
45°	578	555	532	517	510	511	511	516	521	528	534
47.5°	543	520	500	488	484	483	485	491	499	506	515
50°	508	486	470	459	455	456	460	466	475	485	495
52.5°	473	453	438	428	426	429	433	442	450	461	473
55°	436	419	407	399	398	400	404	414	426	439	450
57.5°	399	385	373	368	368	369	376	388	400	414	428
60°	362	349	340	336	337	340	349	359	375	389	404
62.5°	327	316	308	304	303	311	319	330	346	362	379
65°	289	280	273	271	273	278	289	303	317	333	350
67.5°	252	245	240	241	242	249	259	271	286	303	321
70°	217	210	206	207	210	219	227	239	256	273	287
72.5°	181	177	174	176	179	185	195	208	222	238	253
75°	145	145	143	144	149	155	162	175	190	203	215
77.5°	114	112	113	115	118	125	134	143	155	168	178
80°	82	83	85	88	89	95	104	112	121	132	141
82.5°	57	57	58	62	63	69	74	83	90	97	104
85°	34	34	36	38	40	44	48	53	60	65	72
87.5°	16	16	18	19	21	23	24	30	32	34	39
90°	0	0	0	0	0	0	0	0	0	0	0



TEST NUMBER: P242640

CATALOG NUMBER: S124DR-S795D835-X4F0-XX-UDD-A-W

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1207	1207	1207	1207
2.5°	1136	1135	1132	1131
5°	1063	1060	1059	1064
7.5°	1007	1005	1001	999
10°	954	952	948	947
12.5°	903	899	899	900
15°	859	857	852	853
17.5°	814	812	805	812
20°	772	768	765	764
22.5°	732	729	729	725
25°	700	697	696	693
27.5°	674	672	670	671
30°	651	650	649	649
32.5°	631	631	632	632
35°	613	615	616	614
37.5°	597	598	600	601
40°	578	582	583	585
42.5°	560	564	567	567
45°	542	546	549	549
47.5°	523	528	532	532
50°	503	510	514	516
52.5°	484	491	496	497
55°	462	472	477	479
57.5°	442	451	457	458
60°	418	428	436	437
62.5°	393	404	411	415
65°	364	375	382	383
67.5°	334	345	349	352
70°	301	310	315	317
72.5°	264	273	279	279
75°	226	234	237	237
77.5°	187	191	195	196
80°	149	151	154	154
82.5°	110	112	115	114
85°	71	76	75	74
87.5°	40	41	42	43
90°	0	0	0	0

(END OF REPORT)