

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P920817

Luminaire Tested: DFN2DIP-TR3F0-060D050US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920817
REPORT IS A COMBINATION OF REPORTS P901826 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D050US935-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

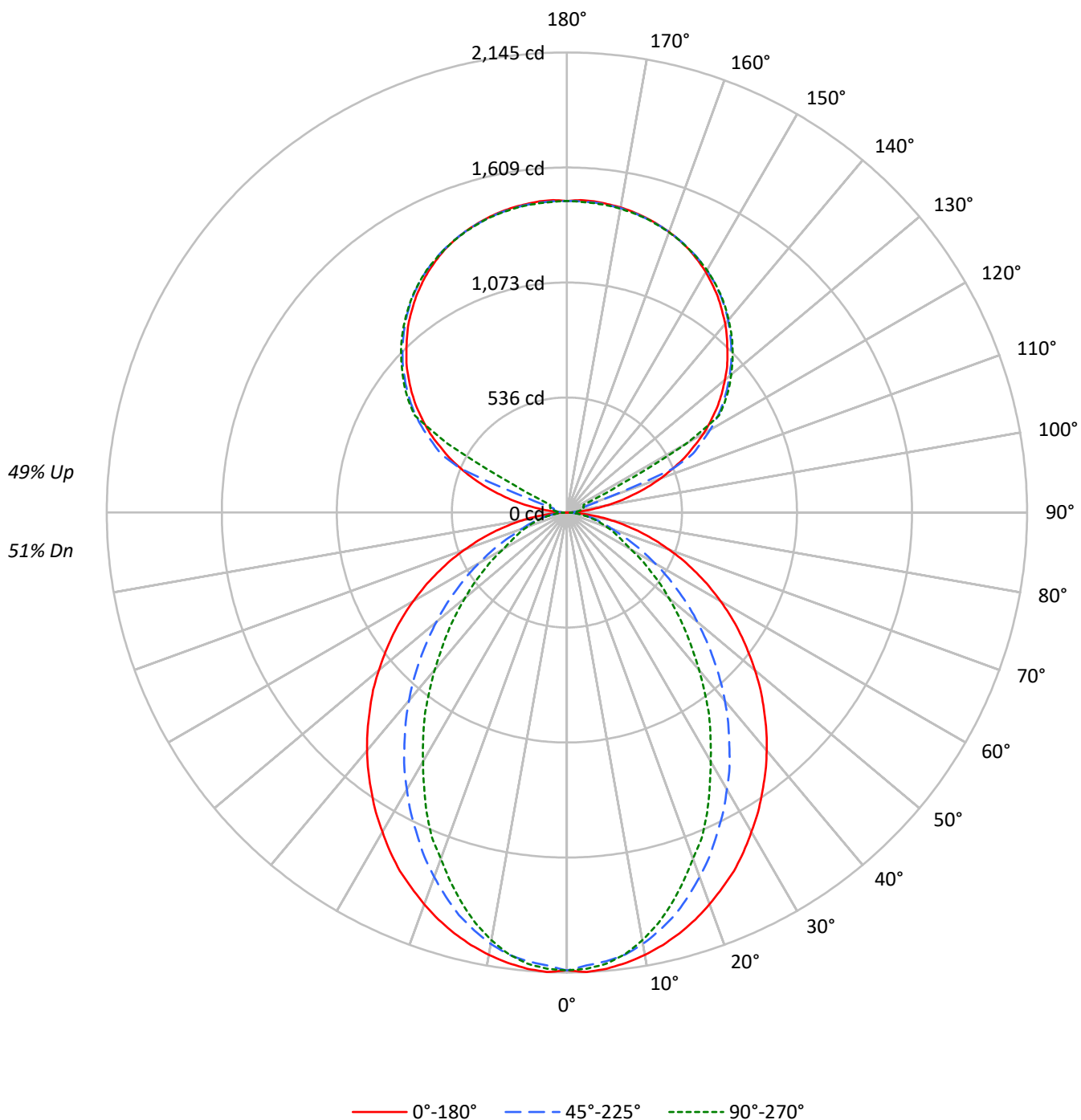
Lumens per Lamp: N/A
Luminaire Lumens: 8653.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 94.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920817

CATALOG NUMBER: DFN2DIP-TR3F0-060D050US935-RLLONL

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57
1	98	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49
2	90	83	77	72	83	77	72	67	66	62	59	55	52	50	45	44	42
3	82	73	66	61	76	68	62	57	58	54	50	49	46	43	41	38	36
4	76	65	58	52	70	61	54	49	52	47	43	44	40	37	37	34	32
5	70	58	50	45	64	54	47	42	47	41	37	40	36	33	33	30	28
6	64	53	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22
8	55	43	36	31	51	41	34	29	35	30	26	30	26	23	26	23	20
9	52	40	32	27	48	37	31	26	32	27	23	28	24	21	24	21	18
10	48	36	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2661	2661	2661
5°	2663	2616	2633
10°	2636	2563	2546
15°	2598	2476	2412
20°	2548	2357	2248
25°	2498	2224	2090
30°	2430	2088	1890
35°	2364	1942	1714
40°	2296	1791	1513
45°	2218	1624	1330
50°	2137	1456	1152
55°	2052	1276	982
60°	1954	1089	806
65°	1841	898	724
70°	1703	721	652
75°	1531	630	590
80°	1281	522	506
85°	871	338	370

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2218 cd/sqm

TEST NUMBER: P920817

CATALOG NUMBER: DFN2DIP-TR3F0-060D050US935-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	2.3
10°-20°	549.3	6.3
20°-30°	771.2	8.9
30°-40°	840.7	9.7
40°-50°	772.7	8.9
50°-60°	606.8	7.0
60°-70°	395.0	4.6
70°-80°	203.3	2.3
80°-90°	54.4	0.6
90°-100°	47.9	0.6
100°-110°	178.6	2.1
110°-120°	473.7	5.5
120°-130°	785.6	9.1
130°-140°	834.5	9.6
140°-150°	775.6	9.0
150°-160°	623.5	7.2
160°-170°	401.8	4.6
170°-180°	138.3	1.6
0°-30°	1520.7	17.6
0°-40°	2361.4	27.3
0°-60°	3740.9	43.2
0°-90°	4393.6	50.8
90°-120°	700.2	8.1
90°-150°	3095.8	35.8
90°-180°	4259.0	49.2
0°-180°	8653.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2135	2135	2135	2135	2135	
5°	2135	2126	2100	2118	2112	202
15°	2031	2009	1944	1907	1888	572
25°	1843	1782	1654	1575	1546	848
35°	1588	1490	1320	1198	1155	994
45°	1298	1169	966	829	782	1003
55°	987	837	628	512	475	882
65°	667	510	336	271	265	661
75°	356	220	154	141	139	376
85°	83	42	37	37	37	95
90°	1	13	21	26	28	8
95°	68	34	41	46	45	81
105°	320	351	64	76	80	342
115°	604	622	649	162	86	595
125°	855	868	888	896	899	762
135°	1058	1074	1084	1094	1092	817
145°	1227	1226	1244	1251	1246	767
155°	1351	1342	1354	1360	1352	622
165°	1423	1417	1420	1428	1420	402
175°	1456	1449	1451	1458	1448	139
180°	1453	1453	1453	1453	1453	

TEST NUMBER: P920817

CATALOG NUMBER: DFN2DIP-TR3F0-060D050US935-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2135.1	2135.1	2135.1	2135.1	2135.1
2.5°	2144.7	2135.1	2113.7	2133.2	2129.3
5°	2135.1	2125.5	2100.2	2117.7	2111.9
7.5°	2117.7	2106.2	2079.1	2086.7	2077.1
10°	2094.5	2080.9	2042.5	2036.5	2025.0
12.5°	2065.6	2048.1	1995.9	1984.4	1963.1
15°	2030.7	2009.4	1943.8	1907.1	1887.8
17.5°	1990.2	1959.2	1878.0	1835.6	1804.7
20°	1943.8	1905.0	1808.5	1760.3	1717.7
22.5°	1893.6	1849.1	1737.0	1671.4	1642.4
25°	1843.4	1781.5	1654.0	1574.9	1545.7
27.5°	1783.6	1717.7	1576.7	1485.8	1441.4
30°	1719.8	1646.1	1491.6	1393.2	1340.9
32.5°	1657.9	1568.9	1410.7	1294.6	1246.2
35°	1588.4	1489.8	1319.8	1198.0	1155.4
37.5°	1520.7	1414.3	1234.8	1101.3	1053.1
40°	1449.1	1333.3	1145.7	1008.6	958.4
42.5°	1375.8	1252.1	1057.0	913.9	865.7
45°	1298.5	1168.9	966.2	828.8	782.5
47.5°	1225.1	1088.0	879.3	741.9	699.5
50°	1143.9	1006.8	794.2	660.7	620.3
52.5°	1064.5	919.6	713.0	585.5	548.8
55°	987.3	836.6	627.9	512.1	475.4
57.5°	908.2	753.5	552.7	444.4	413.5
60°	827.0	672.4	473.4	375.0	344.0
62.5°	747.9	593.3	405.7	313.1	297.6
65°	666.7	510.1	336.2	270.6	264.7
67.5°	589.4	432.7	270.6	237.6	231.9
70°	508.2	357.5	224.0	204.8	197.0
72.5°	430.9	287.8	187.4	172.0	168.1
75°	355.5	220.2	154.5	141.0	139.2
77.5°	280.3	156.4	121.7	114.0	110.1
80°	210.5	112.1	92.6	85.1	85.1
82.5°	146.8	75.4	63.7	59.8	59.8
85°	83.0	42.4	36.7	36.7	36.7
87.5°	31.0	15.4	15.4	13.5	13.5
90°	1.0	12.6	21.0	26.3	28.3
92.5°	26.3	22.1	25.2	27.4	28.3
95°	68.3	33.6	41.0	46.3	45.2
97.5°	123.0	36.9	53.6	56.8	57.8
100°	186.1	42.1	59.9	68.3	70.4
102.5°	255.5	253.4	62.1	73.5	76.8
105°	319.6	351.2	64.1	75.7	79.9
107.5°	394.3	420.4	66.3	77.7	82.1
110°	465.8	487.8	184.0	78.9	83.0

TEST NUMBER: P920817

CATALOG NUMBER: DFN2DIP-TR3F0-060D050US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	533.0	551.9	534.1	80.9	84.1
115°	604.5	622.3	648.7	162.0	86.3
117.5°	666.5	687.5	705.5	555.0	279.7
120°	735.9	751.7	770.6	783.2	641.3
122.5°	794.7	811.6	832.7	839.0	840.1
125°	854.6	868.4	888.4	895.7	898.9
127.5°	909.3	924.0	940.0	950.4	951.4
130°	960.9	977.7	989.2	1000.8	999.9
132.5°	1013.5	1027.2	1038.6	1048.2	1047.1
135°	1057.6	1074.5	1083.8	1094.5	1092.3
137.5°	1103.8	1116.5	1127.0	1137.6	1134.5
140°	1149.0	1157.5	1169.0	1178.4	1173.3
142.5°	1187.0	1194.4	1208.0	1216.3	1211.1
145°	1226.9	1225.8	1243.6	1251.0	1245.8
147.5°	1261.5	1258.3	1276.3	1281.5	1277.4
150°	1295.2	1287.9	1304.7	1311.0	1305.7
152.5°	1323.5	1315.2	1330.9	1337.3	1329.9
155°	1350.9	1341.5	1354.1	1360.4	1352.0
157.5°	1372.9	1364.6	1374.1	1381.5	1372.9
160°	1392.0	1385.6	1392.0	1398.2	1390.9
162.5°	1408.7	1402.5	1407.6	1415.0	1405.6
165°	1423.4	1417.2	1420.3	1427.6	1420.3
167.5°	1435.0	1428.7	1431.9	1439.2	1429.8
170°	1444.5	1438.1	1440.3	1447.6	1438.1
172.5°	1450.8	1444.5	1446.6	1454.0	1444.5
175°	1456.0	1448.6	1450.8	1458.1	1447.6
177.5°	1458.1	1450.8	1451.9	1459.2	1449.7
180°	1452.8	1452.8	1452.8	1452.8	1452.8

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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	10.57	11.40	11.52	12.37	13.63	6.54	7.38	7.50	8.35	9.61
	3H	12.24	12.98	13.20	13.96	15.25	7.73	8.48	8.70	9.45	10.74
	4H	12.84	13.55	13.82	14.53	15.82	8.17	8.88	9.16	9.86	11.16
	6H	13.25	13.90	14.25	14.89	16.20	8.49	9.14	9.48	10.13	11.43
	8H	13.38	13.99	14.37	15.00	16.30	8.58	9.20	9.58	10.20	11.50
	12H	13.43	14.02	14.44	15.02	16.35	8.62	9.21	9.62	10.21	11.53
4H	2H	10.58	11.29	11.57	12.27	13.57	7.13	7.84	8.12	8.82	10.12
	3H	12.40	12.99	13.40	14.00	15.31	8.48	9.07	9.48	10.08	11.39
	4H	13.09	13.63	14.09	14.63	15.96	9.02	9.56	10.03	10.56	11.89
	6H	13.60	14.06	14.61	15.08	16.41	9.44	9.90	10.45	10.92	12.25
	8H	13.77	14.20	14.78	15.22	16.56	9.56	9.99	10.58	11.01	12.36
	12H	13.86	14.24	14.89	15.28	16.63	9.62	10.01	10.66	11.05	12.40
8H	4H	13.06	13.49	14.07	14.51	15.85	9.30	9.73	10.32	10.75	12.09
	6H	13.61	13.97	14.65	15.03	16.37	9.81	10.16	10.85	11.23	12.57
	8H	13.82	14.14	14.87	15.18	16.54	9.99	10.31	11.04	11.35	12.71
	12H	13.95	14.23	15.01	15.27	16.68	10.11	10.38	11.16	11.43	12.83
12H	4H	13.01	13.40	14.04	14.43	15.78	9.30	9.69	10.34	10.72	12.07
	6H	13.59	13.90	14.64	14.95	16.31	9.86	10.17	10.90	11.22	12.58
	8H	13.80	14.08	14.85	15.12	16.52	10.06	10.34	11.11	11.38	12.78

END OF REPORT