

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: P919383

Luminaire Tested: DFN2DIP-PN3F0-050D050US935-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919383
REPORT IS A COMBINATION OF REPORTS P901064 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-050D050US935-RLLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

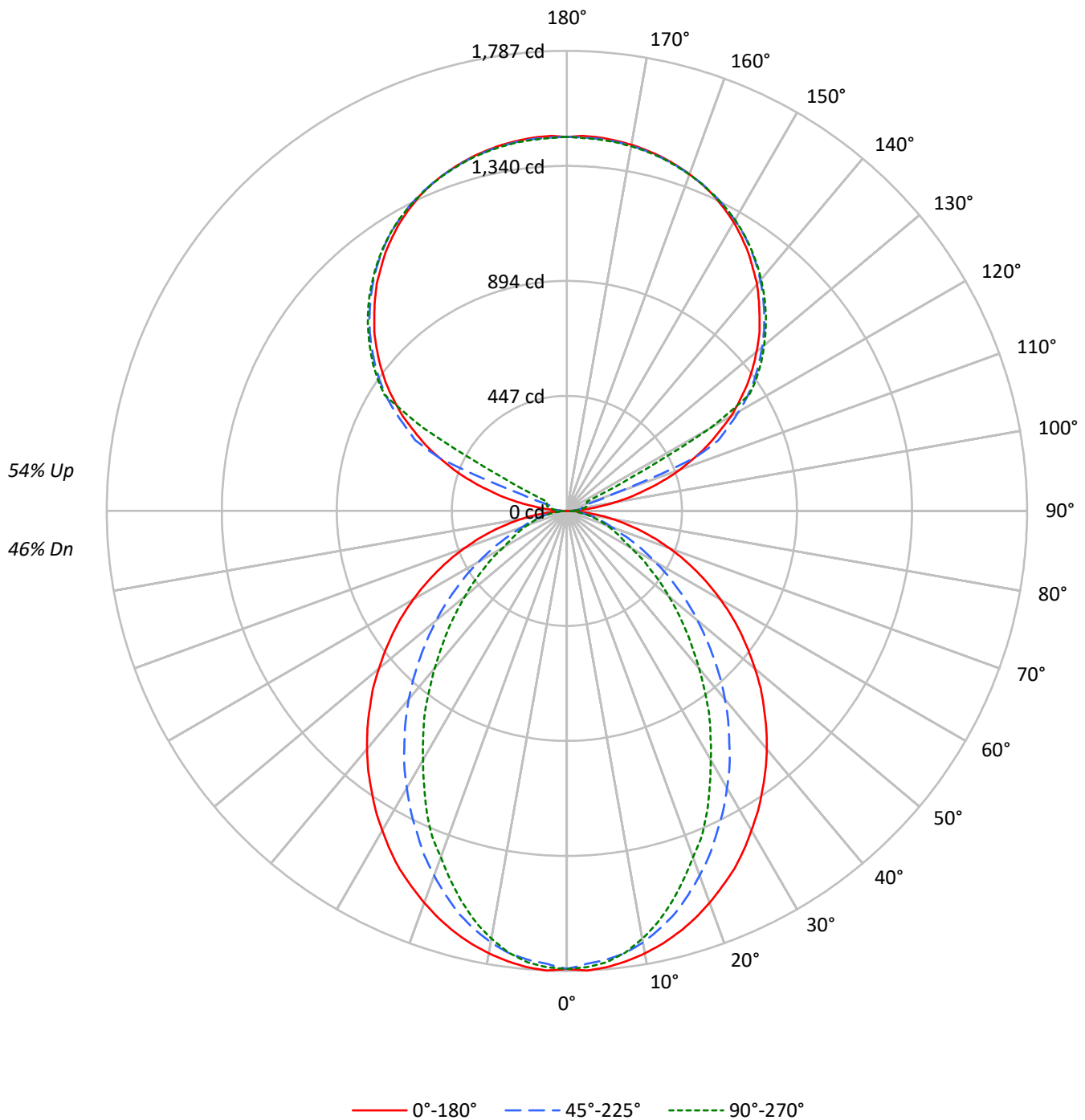
Lumens per Lamp: N/A
Luminaire Lumens: 7921.2 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 82.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919383

CATALOG NUMBER: DFN2DIP-PN3F0-050D050US935-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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46		
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45	40		
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39	34		
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34	29		
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29	26		
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26	23		
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23	20		
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21	18		
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16		
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17	15		
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15	13		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2080	2080	2080
5°	2082	2045	2059
10°	2060	2004	1991
15°	2031	1936	1887
20°	1992	1844	1759
25°	1952	1740	1636
30°	1899	1634	1479
35°	1847	1520	1342
40°	1794	1402	1185
45°	1733	1272	1043
50°	1670	1140	904
55°	1603	1000	770
60°	1526	853	633
65°	1437	705	569
70°	1330	566	514
75°	1195	496	465
80°	999	411	401
85°	679	268	296

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1733 cd/sqm

TEST NUMBER: P919383

CATALOG NUMBER: DFN2DIP-PN3F0-050D050US935-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.8	2.1
10°-20°	457.8	5.8
20°-30°	642.7	8.1
30°-40°	700.6	8.8
40°-50°	643.9	8.1
50°-60°	505.7	6.4
60°-70°	329.2	4.2
70°-80°	169.5	2.1
80°-90°	45.8	0.6
90°-100°	47.9	0.6
100°-110°	178.6	2.3
110°-120°	473.7	6.0
120°-130°	785.6	9.9
130°-140°	834.5	10.5
140°-150°	775.6	9.8
150°-160°	623.5	7.9
160°-170°	401.8	5.1
170°-180°	138.3	1.7
0°-30°	1267.2	16.0
0°-40°	1967.8	24.8
0°-60°	3117.4	39.4
0°-90°	3661.8	46.2
90°-120°	700.2	8.8
90°-150°	3095.8	39.1
90°-180°	4259.0	53.8
0°-180°	7921.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1779	1779	1779	1779	1779	
5°	1779	1771	1750	1765	1760	169
15°	1692	1675	1620	1589	1573	477
25°	1536	1484	1378	1312	1288	706
35°	1324	1242	1100	998	963	828
45°	1082	974	805	691	652	836
55°	823	697	523	427	396	735
65°	556	425	280	226	221	551
75°	296	184	129	118	116	313
85°	69	35	31	31	31	79
90°	1	13	21	26	28	7
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: P919383

CATALOG NUMBER: DFN2DIP-PN3F0-050D050US935-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1779.3	1779.3	1779.3	1779.3	1779.3
2.5°	1787.3	1779.3	1761.5	1777.7	1774.4
5°	1779.3	1771.2	1750.2	1764.7	1760.0
7.5°	1764.7	1755.1	1732.6	1739.0	1730.9
10°	1745.4	1734.1	1702.0	1697.1	1687.5
12.5°	1721.3	1706.8	1663.3	1653.7	1635.9
15°	1692.3	1674.6	1619.9	1589.3	1573.2
17.5°	1658.5	1632.7	1565.0	1529.6	1503.8
20°	1619.9	1587.6	1507.1	1467.0	1431.4
22.5°	1578.0	1540.9	1447.5	1392.8	1368.7
25°	1536.1	1484.5	1378.3	1312.3	1288.1
27.5°	1486.3	1431.4	1313.9	1238.2	1201.2
30°	1433.1	1371.8	1243.0	1161.0	1117.4
32.5°	1381.6	1307.4	1175.5	1078.8	1038.5
35°	1323.6	1241.5	1099.8	998.3	962.9
37.5°	1267.2	1178.6	1029.0	917.7	877.6
40°	1207.6	1111.1	954.8	840.5	798.7
42.5°	1146.5	1043.4	880.8	761.6	721.4
45°	1082.1	974.1	805.1	690.7	652.0
47.5°	1020.9	906.6	732.7	618.3	582.9
50°	953.3	839.0	661.8	550.6	516.9
52.5°	887.2	766.4	594.2	487.9	457.4
55°	822.8	697.1	523.2	426.7	396.1
57.5°	756.8	628.0	460.5	370.4	344.6
60°	689.1	560.3	394.4	312.5	286.6
62.5°	623.2	494.4	338.1	260.9	248.1
65°	555.5	425.1	280.2	225.5	220.6
67.5°	491.1	360.7	225.5	198.0	193.2
70°	423.5	297.9	186.8	170.6	164.2
72.5°	359.1	239.9	156.2	143.4	140.1
75°	296.3	183.5	128.8	117.5	116.0
77.5°	233.5	130.4	101.5	95.0	91.7
80°	175.5	93.4	77.2	70.9	70.9
82.5°	122.3	62.9	53.1	49.9	49.9
85°	69.2	35.4	30.6	30.6	30.6
87.5°	25.8	12.8	12.8	11.3	11.3
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: P919383

CATALOG NUMBER: DFN2DIP-PN3F0-050D050US935-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	9.29	10.09	10.28	11.09	12.42	5.26	6.06	6.25	7.06	8.39
	3H	10.96	11.67	11.96	12.69	14.03	6.44	7.15	7.44	8.16	9.51
	4H	11.56	12.24	12.58	13.25	14.61	6.88	7.56	7.90	8.57	9.93
	6H	11.98	12.60	13.01	13.62	14.99	7.19	7.82	8.22	8.84	10.20
	8H	12.10	12.69	13.13	13.73	15.09	7.28	7.87	8.32	8.91	10.27
	12H	12.16	12.72	13.20	13.75	15.14	7.32	7.88	8.36	8.91	10.30
4H	2H	9.30	9.98	10.33	10.99	12.35	5.84	6.52	6.87	7.54	8.89
	3H	11.12	11.68	12.16	12.73	14.10	7.18	7.75	8.22	8.79	10.16
	4H	11.81	12.32	12.85	13.36	14.75	7.73	8.24	8.77	9.28	10.67
	6H	12.32	12.76	13.37	13.82	15.20	8.14	8.58	9.19	9.64	11.03
	8H	12.49	12.90	13.54	13.95	15.35	8.26	8.67	9.31	9.73	11.13
	12H	12.58	12.95	13.65	14.02	15.42	8.32	8.70	9.39	9.76	11.17
8H	4H	11.77	12.18	12.82	13.24	14.64	8.00	8.41	9.05	9.46	10.87
	6H	12.33	12.67	13.40	13.76	15.16	8.51	8.85	9.58	9.94	11.34
	8H	12.54	12.84	13.62	13.92	15.34	8.70	9.00	9.78	10.07	11.49
	12H	12.68	12.94	13.76	14.01	15.47	8.81	9.07	9.89	10.14	11.60
12H	4H	11.72	12.10	12.79	13.16	14.57	8.00	8.38	9.07	9.44	10.85
	6H	12.31	12.60	13.39	13.68	15.10	8.56	8.86	9.64	9.93	11.35
	8H	12.52	12.78	13.60	13.85	15.32	8.76	9.02	9.85	10.10	11.56

END OF REPORT