

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: P919269

Luminaire Tested: DFN2DIP-PN2F0-040D050US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919269
REPORT IS A COMBINATION OF REPORTS P901015 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-040D050US935-FLLONL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

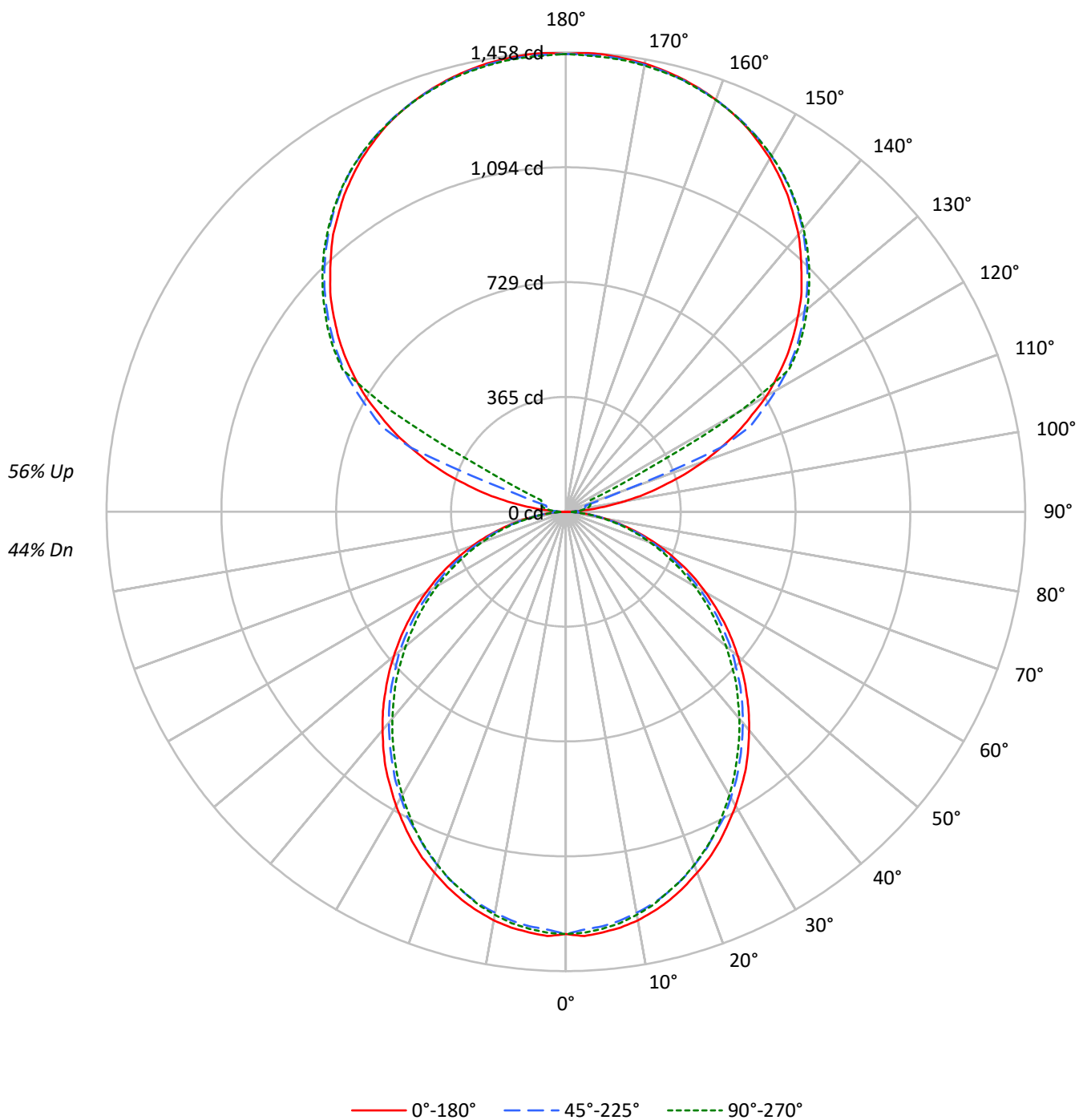
Lumens per Lamp: N/A
Luminaire Lumens: 7671.5 lumens
Efficiency: N/A
Efficacy: 95.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 80.4
Input Voltage (V): 120
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: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLLONL

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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51
1	97	92	88	85	88	85	81	78	70	68	66	57	56	54	45	44	43
2	88	81	74	69	80	74	69	64	62	58	55	50	48	45	40	38	36
3	80	71	64	58	73	65	59	54	54	50	46	44	41	38	35	33	31
4	73	63	55	49	67	58	51	46	48	43	39	40	36	33	31	29	27
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	28	25	23
6	62	50	42	36	57	46	39	34	39	33	29	32	28	25	26	23	20
7	57	45	37	32	52	42	35	30	35	30	26	29	25	22	23	20	18
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	16
9	49	37	30	25	45	35	28	23	29	24	20	25	20	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	18	23	19	16	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2902	2902	2902
5°	2902	2856	2877
10°	2874	2811	2834
15°	2827	2759	2769
20°	2765	2688	2702
25°	2704	2605	2626
30°	2628	2528	2530
35°	2555	2437	2429
40°	2467	2345	2333
45°	2379	2253	2234
50°	2282	2156	2120
55°	2180	2043	2014
60°	2065	1911	1893
65°	1938	1773	1750
70°	1777	1605	1594
75°	1557	1403	1445
80°	1288	1146	1173
85°	875	724	735

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2379 cd/sqm

TEST NUMBER: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	1.6
10°-20°	354.9	4.6
20°-30°	521.5	6.8
30°-40°	605.7	7.9
40°-50°	605.0	7.9
50°-60°	527.5	6.9
60°-70°	389.9	5.1
70°-80°	220.6	2.9
80°-90°	60.8	0.8
90°-100°	47.9	0.6
100°-110°	178.6	2.3
110°-120°	473.7	6.2
120°-130°	785.6	10.2
130°-140°	834.5	10.9
140°-150°	775.6	10.1
150°-160°	623.5	8.1
160°-170°	401.8	5.2
170°-180°	138.3	1.8
0°-30°	1002.5	13.1
0°-40°	1608.3	21.0
0°-60°	2740.7	35.7
0°-90°	3412.1	44.5
90°-120°	700.2	9.1
90°-150°	3095.8	40.4
90°-180°	4259.0	55.5
0°-180°	7671.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1340	1335	1321	1331	1329	127
15°	1276	1268	1251	1256	1250	359
25°	1154	1144	1122	1125	1122	531
35°	996	983	963	955	948	622
45°	810	802	782	768	763	626
55°	614	606	590	575	568	548
65°	414	406	393	381	375	409
75°	216	214	207	200	202	231
85°	53	52	50	46	45	59
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: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1340.1	1340.1	1340.1	1340.1	1340.1
2.5°	1347.9	1341.4	1327.2	1340.1	1337.6
5°	1340.1	1335.0	1320.8	1331.0	1328.6
7.5°	1331.0	1323.4	1309.1	1319.6	1317.0
10°	1317.0	1307.9	1292.5	1302.8	1298.9
12.5°	1297.5	1289.9	1274.4	1280.9	1278.2
15°	1275.7	1268.0	1251.2	1256.4	1250.0
17.5°	1248.6	1241.0	1224.2	1230.5	1224.2
20°	1218.9	1211.3	1193.3	1197.0	1192.1
22.5°	1189.4	1177.8	1161.0	1161.0	1158.4
25°	1154.5	1144.3	1122.4	1124.9	1122.4
27.5°	1115.9	1106.8	1090.2	1086.3	1079.9
30°	1077.3	1066.9	1047.7	1043.8	1038.6
32.5°	1036.0	1028.4	1007.7	1000.0	994.7
35°	996.1	983.3	962.6	954.8	948.4
37.5°	951.0	939.3	918.7	909.7	903.3
40°	904.7	894.2	873.6	862.1	857.0
42.5°	859.5	849.1	828.6	815.6	808.0
45°	810.5	801.6	782.1	768.1	762.8
47.5°	762.8	753.8	733.2	719.0	711.4
50°	712.6	706.1	688.1	670.0	663.6
52.5°	663.6	654.6	637.9	623.7	614.7
55°	613.5	605.6	590.2	574.7	568.3
57.5°	563.1	556.7	539.8	524.4	519.3
60°	512.8	507.7	489.7	475.5	471.7
62.5°	463.9	454.9	442.0	429.1	424.0
65°	413.7	405.9	393.0	381.4	375.1
67.5°	362.1	355.6	344.1	335.1	329.9
70°	314.4	309.3	297.6	288.6	283.5
72.5°	265.5	260.3	253.9	244.9	241.0
75°	216.5	214.0	207.4	199.8	202.3
77.5°	172.6	167.5	164.9	161.0	157.2
80°	128.9	127.5	124.9	121.1	118.6
82.5°	87.6	87.6	86.4	81.2	81.2
85°	52.8	51.6	50.3	46.3	45.1
87.5°	23.2	20.7	18.1	14.2	12.8
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: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLLONL

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

TEST NUMBER: P919269

CATALOG NUMBER: DFN2DIP-PN2F0-040D050US935-FLONL

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	10.32	11.14	11.33	12.15	13.50	9.89	10.70	10.89	11.71	13.06
	3H	11.96	12.69	12.97	13.71	15.08	11.48	12.21	12.49	13.23	14.60
	4H	12.53	13.22	13.56	14.25	15.63	12.05	12.74	13.08	13.77	15.14
	6H	12.91	13.55	13.95	14.58	15.97	12.43	13.06	13.46	14.09	15.48
	8H	13.01	13.62	14.05	14.66	16.05	12.52	13.13	13.56	14.18	15.56
	12H	13.05	13.63	14.10	14.67	16.07	12.56	13.13	13.60	14.17	15.58
4H	2H	10.77	11.46	11.80	12.49	13.86	10.42	11.11	11.45	12.14	13.51
	3H	12.61	13.18	13.65	14.24	15.63	12.21	12.78	13.25	13.84	15.23
	4H	13.30	13.83	14.35	14.88	16.29	12.89	13.42	13.94	14.46	15.88
	6H	13.80	14.25	14.85	15.32	16.73	13.38	13.83	14.43	14.90	16.31
	8H	13.94	14.36	14.99	15.42	16.84	13.51	13.94	14.57	15.00	16.42
	12H	14.00	14.38	15.07	15.46	16.88	13.56	13.95	14.64	15.02	16.45
8H	4H	13.49	13.91	14.54	14.97	16.39	13.12	13.54	14.17	14.60	16.02
	6H	14.09	14.44	15.17	15.54	16.96	13.72	14.07	14.80	15.17	16.59
	8H	14.30	14.60	15.39	15.69	17.13	13.92	14.22	15.00	15.31	16.75
	12H	14.41	14.68	15.50	15.77	17.24	14.02	14.29	15.11	15.37	16.85
12H	4H	13.47	13.85	14.54	14.93	16.35	13.11	13.49	14.18	14.56	15.99
	6H	14.11	14.42	15.20	15.51	16.95	13.75	14.06	14.84	15.15	16.59
	8H	14.34	14.61	15.43	15.69	17.17	13.97	14.24	15.06	15.32	16.80