

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: P916582

Luminaire Tested: DFN2DIP-PN2F0-060D050US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916582
REPORT IS A COMBINATION OF REPORTS P899500 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-060D050US930-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

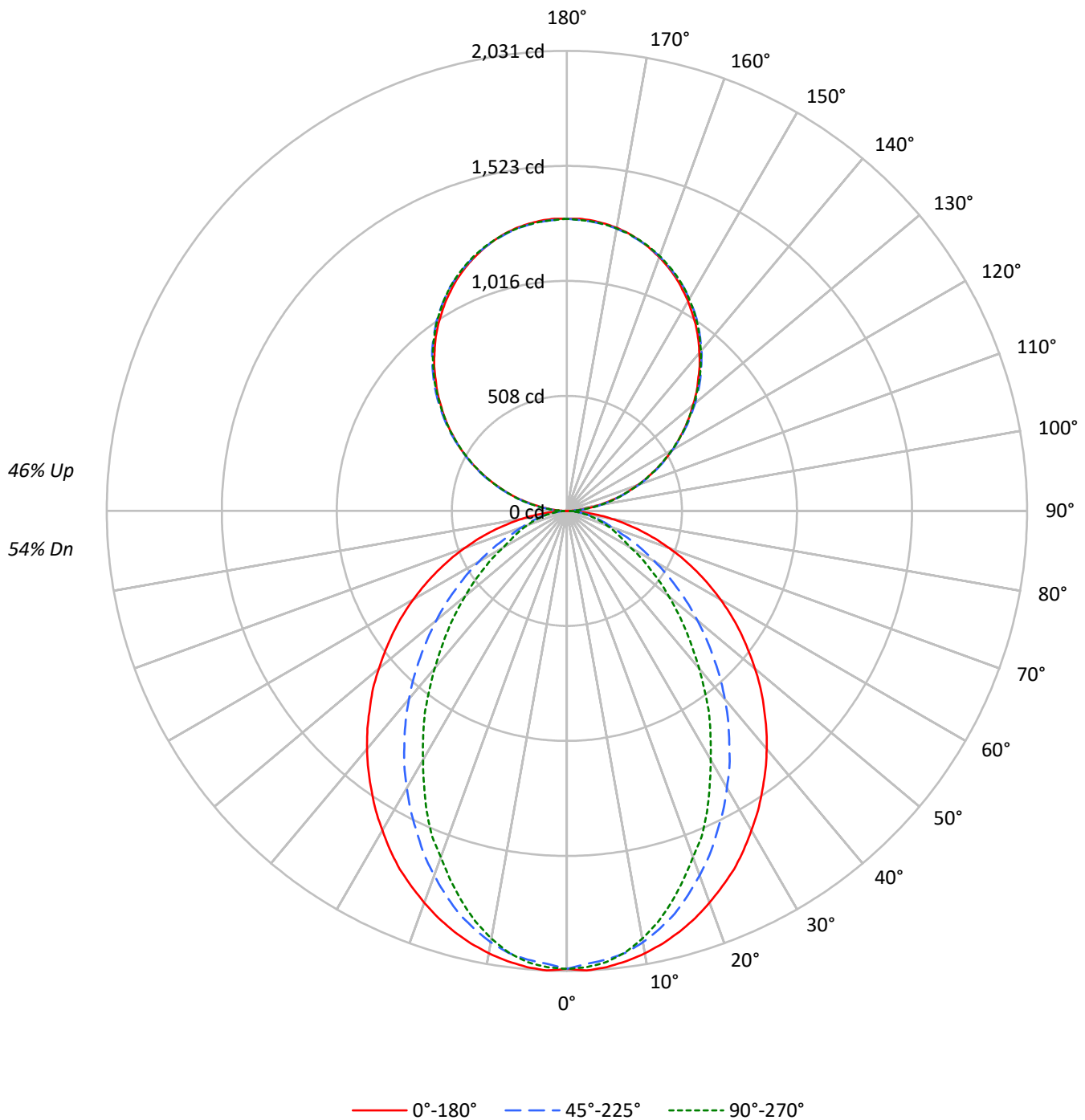
Lumens per Lamp: N/A
Luminaire Lumens: 7765.7 lumens
Efficiency: N/A
Efficacy: 73.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916582

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US930-RLLFLL

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51
2	91	84	78	73	84	78	73	68	67	63	60	57	54	52	48	46	44
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	43	40	38
4	76	66	58	52	71	61	55	49	53	48	44	46	42	38	38	36	33
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	29	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	27	29	26	23
8	56	44	36	31	52	41	34	30	36	31	27	31	27	24	27	24	21
9	52	40	33	28	48	38	31	27	33	28	24	29	25	22	25	22	19
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4379	4379	4379
5°	4379	4300	4330
10°	4328	4207	4183
15°	4262	4058	3959
20°	4176	3858	3687
25°	4088	3635	3424
30°	3972	3407	3093
35°	3859	3164	2802
40°	3742	2912	2470
45°	3608	2635	2170
50°	3469	2356	1876
55°	3323	2059	1595
60°	3153	1750	1307
65°	2958	1436	1169
70°	2720	1144	1049
75°	2421	990	941
80°	1992	804	797
85°	1302	500	565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3608 cd/sqm

TEST NUMBER: P916582

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.5	2.4
10°-20°	520.2	6.7
20°-30°	730.3	9.4
30°-40°	796.1	10.3
40°-50°	731.7	9.4
50°-60°	574.6	7.4
60°-70°	374.0	4.8
70°-80°	192.5	2.5
80°-90°	52.8	0.7
90°-100°	79.8	1.0
100°-110°	253.5	3.3
110°-120°	433.8	5.6
120°-130°	570.5	7.3
130°-140°	640.4	8.2
140°-150°	627.9	8.1
150°-160°	526.8	6.8
160°-170°	349.3	4.5
170°-180°	122.1	1.6
0°-30°	1439.9	18.5
0°-40°	2236.0	28.8
0°-60°	3542.3	45.6
0°-90°	4161.7	53.6
90°-120°	767.0	9.9
90°-150°	2605.8	33.6
90°-180°	3604.0	46.4
0°-180°	7765.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2022	2022	2022	2022	2022	
5°	2022	2013	1989	2005	2000	192
15°	1923	1903	1841	1806	1788	542
25°	1746	1687	1566	1491	1464	803
35°	1504	1411	1250	1134	1094	941
45°	1230	1107	915	785	741	950
55°	935	792	595	485	450	835
65°	631	483	318	256	251	626
75°	337	208	146	134	132	356
85°	79	40	35	35	35	90
90°	1	14	38	36	37	8
95°	57	68	70	70	68	63
105°	234	237	240	241	241	247
115°	435	442	440	438	435	431
125°	633	643	640	636	635	566
135°	819	831	833	832	829	633
145°	994	1002	1008	1009	1005	621
155°	1137	1140	1144	1149	1145	523
165°	1237	1236	1236	1243	1238	349
175°	1287	1284	1282	1289	1283	122
180°	1289	1289	1289	1289	1289	

TEST NUMBER: P916582

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US930-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2021.8	2021.8	2021.8	2021.8	2021.8
2.5°	2030.9	2021.8	2001.6	2020.0	2016.3
5°	2021.8	2012.6	1988.8	2005.3	1999.8
7.5°	2005.3	1994.4	1968.8	1976.0	1966.8
10°	1983.3	1970.5	1934.1	1928.4	1917.5
12.5°	1956.0	1939.4	1889.9	1879.1	1858.9
15°	1923.0	1902.7	1840.6	1805.9	1787.6
17.5°	1884.6	1855.2	1778.3	1738.1	1708.9
20°	1840.6	1803.9	1712.5	1666.9	1626.5
22.5°	1793.1	1750.9	1644.8	1582.7	1555.3
25°	1745.6	1686.9	1566.2	1491.3	1463.7
27.5°	1688.9	1626.5	1493.0	1407.0	1364.9
30°	1628.5	1558.8	1412.4	1319.2	1269.7
32.5°	1569.9	1485.6	1335.8	1225.9	1180.1
35°	1504.1	1410.7	1249.8	1134.4	1094.0
37.5°	1440.0	1339.2	1169.2	1042.8	997.2
40°	1372.2	1262.6	1084.9	955.0	907.5
42.5°	1302.8	1185.7	1000.9	865.4	819.8
45°	1229.6	1106.8	914.9	784.8	740.9
47.5°	1160.1	1030.2	832.6	702.5	662.3
50°	1083.2	953.3	752.0	625.7	587.4
52.5°	1008.0	870.8	675.1	554.4	519.7
55°	934.9	792.2	594.6	484.9	450.1
57.5°	860.0	713.5	523.3	420.9	391.5
60°	783.1	636.7	448.3	355.1	325.7
62.5°	708.2	561.8	384.2	296.4	281.8
65°	631.3	483.0	318.4	256.2	250.6
67.5°	558.1	409.8	256.2	225.0	219.6
70°	481.2	338.5	212.1	194.0	186.5
72.5°	408.1	272.6	177.4	162.9	159.1
75°	336.6	208.5	146.3	133.5	131.8
77.5°	265.4	148.1	115.3	107.9	104.3
80°	199.3	106.2	87.7	80.6	80.6
82.5°	139.0	71.4	60.3	56.7	56.7
85°	78.6	40.2	34.7	34.7	34.7
87.5°	29.4	14.6	14.6	12.8	12.8
90°	1.1	14.0	38.1	35.8	36.9
92.5°	24.1	32.6	33.8	35.0	35.0
95°	56.7	67.7	69.5	69.5	67.7
97.5°	94.4	104.5	108.8	108.8	108.8
100°	137.9	146.9	150.0	150.0	148.9
102.5°	183.8	190.5	194.7	195.9	194.7
105°	234.0	237.1	239.5	241.3	241.3
107.5°	283.7	288.4	288.4	289.2	283.7
110°	331.9	338.2	338.2	338.2	335.0

TEST NUMBER: P916582

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US930-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	384.0	390.6	389.5	386.4	384.0
115°	435.3	441.6	439.6	438.5	435.3
117.5°	486.2	494.8	489.3	486.2	483.1
120°	537.5	546.1	537.5	537.5	534.0
122.5°	584.2	595.1	589.6	586.5	584.2
125°	633.2	642.9	639.8	636.3	635.1
127.5°	680.9	693.0	688.8	684.0	680.9
130°	725.7	739.6	737.7	735.4	731.1
132.5°	775.8	786.7	787.5	782.0	778.9
135°	819.0	831.0	833.3	832.2	829.1
137.5°	867.2	876.9	878.8	878.0	873.3
140°	909.5	919.2	924.6	924.6	920.4
142.5°	953.0	962.8	965.9	967.0	962.8
145°	994.3	1002.0	1008.2	1009.4	1005.1
147.5°	1031.2	1040.9	1045.5	1047.5	1043.2
150°	1069.3	1075.9	1080.1	1083.6	1080.1
152.5°	1103.1	1109.7	1115.1	1119.4	1115.1
155°	1136.9	1140.0	1143.5	1148.9	1145.4
157.5°	1166.0	1168.3	1170.3	1178.1	1172.6
160°	1192.0	1194.4	1195.6	1202.2	1197.5
162.5°	1216.2	1216.2	1217.3	1224.7	1219.3
165°	1236.8	1235.6	1235.6	1243.4	1237.9
167.5°	1255.4	1251.9	1251.9	1259.7	1254.3
170°	1269.4	1266.3	1265.2	1272.9	1266.3
172.5°	1279.1	1276.0	1274.9	1282.6	1276.0
175°	1286.9	1283.8	1281.5	1289.2	1282.6
177.5°	1291.2	1288.1	1285.7	1292.3	1285.7
180°	1289.2	1289.2	1289.2	1289.2	1289.2

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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	12.49	13.35	13.42	14.29	15.52	8.46	9.32	9.39	10.26	11.49
	3H	14.15	14.92	15.09	15.87	17.12	9.63	10.40	10.58	11.36	12.60
	4H	14.74	15.47	15.70	16.43	17.69	10.07	10.80	11.03	11.76	13.01
	6H	15.15	15.82	16.12	16.79	18.05	10.38	11.05	11.35	12.01	13.28
	8H	15.27	15.91	16.25	16.89	18.15	10.46	11.10	11.44	12.08	13.35
	12H	15.32	15.93	16.31	16.90	18.19	10.50	11.10	11.48	12.08	13.37
4H	2H	12.51	13.23	13.47	14.19	15.45	9.05	9.77	10.01	10.73	11.99
	3H	14.32	14.92	15.29	15.91	17.18	10.38	10.98	11.35	11.97	13.24
	4H	14.99	15.54	15.98	16.53	17.82	10.91	11.46	11.90	12.45	13.74
	6H	15.49	15.96	16.48	16.97	18.26	11.32	11.79	12.31	12.80	14.09
	8H	15.65	16.10	16.65	17.10	18.40	11.44	11.88	12.43	12.88	14.18
	12H	15.74	16.14	16.75	17.15	18.46	11.49	11.89	12.51	12.91	14.22
8H	4H	14.96	15.40	15.95	16.40	17.71	11.18	11.63	12.18	12.63	13.93
	6H	15.50	15.87	16.52	16.91	18.21	11.68	12.05	12.70	13.09	14.39
	8H	15.71	16.03	16.74	17.06	18.38	11.86	12.18	12.89	13.21	14.53
	12H	15.83	16.12	16.86	17.14	18.50	11.96	12.25	13.00	13.27	14.64
12H	4H	14.91	15.31	15.93	16.33	17.64	11.19	11.59	12.20	12.60	13.91
	6H	15.48	15.80	16.51	16.83	18.15	11.72	12.05	12.75	13.07	14.40
	8H	15.68	15.97	16.72	16.99	18.36	11.92	12.20	12.95	13.23	14.59