

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: P916938

Luminaire Tested: DFN2DIP-PN4F0-080D060US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916938
REPORT IS A COMBINATION OF REPORTS P899654 AND P896497
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-080D060US930-RLLFLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

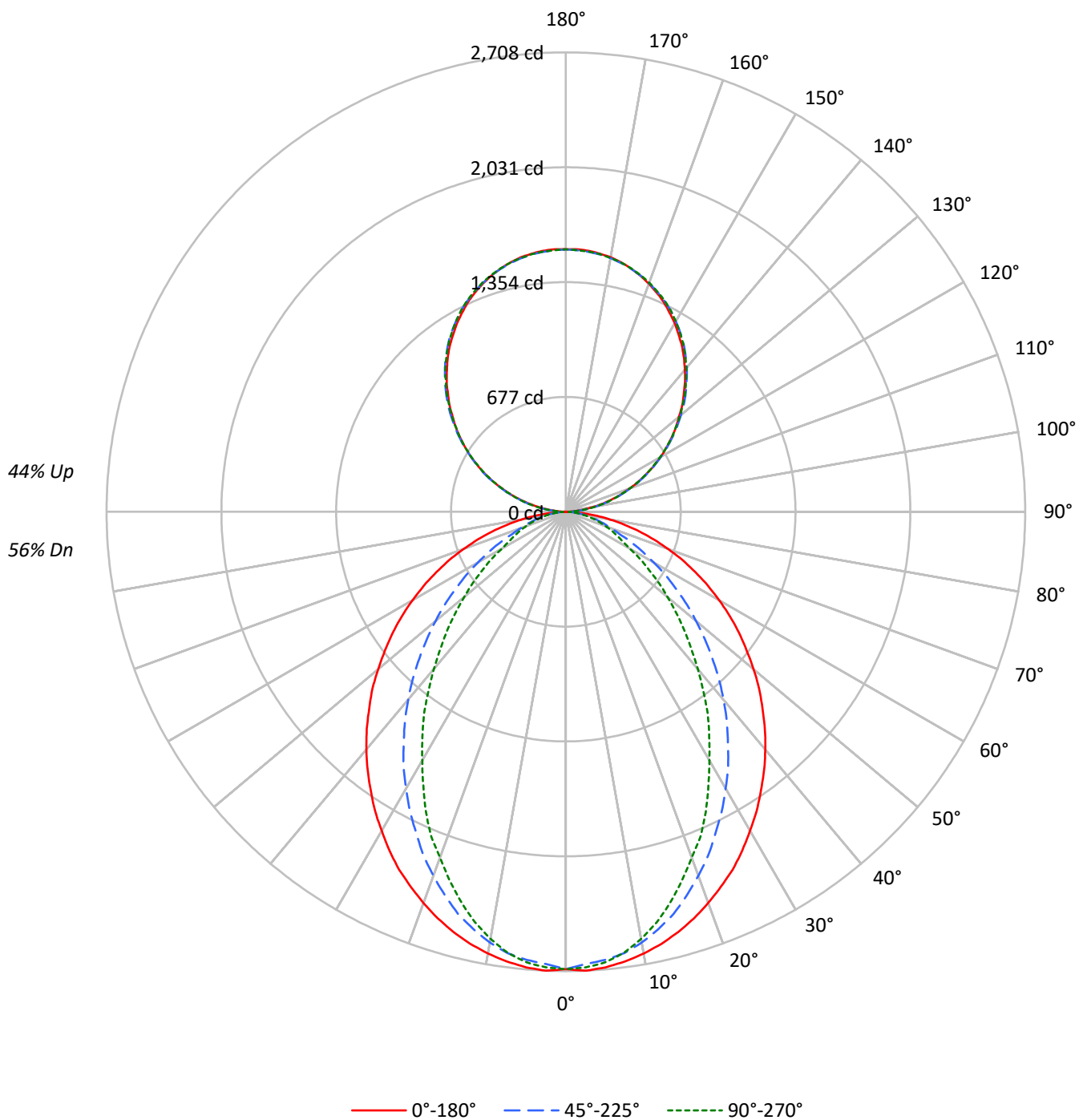
Lumens per Lamp: N/A
Luminaire Lumens: 9873.3 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 122.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLLFLL

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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1968	1968	1968
5°	1971	1937	1949
10°	1951	1899	1886
15°	1924	1837	1788
20°	1889	1750	1668
25°	1853	1653	1553
30°	1804	1554	1405
35°	1756	1448	1276
40°	1707	1337	1128
45°	1650	1214	993
50°	1592	1091	862
55°	1531	959	736
60°	1460	820	606
65°	1379	679	546
70°	1280	548	495
75°	1156	484	451
80°	977	407	392
85°	680	273	297

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1650 cd/sqm

TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.6	2.6
10°-20°	693.6	7.0
20°-30°	973.7	9.9
30°-40°	1061.4	10.8
40°-50°	975.6	9.9
50°-60°	766.2	7.8
60°-70°	498.7	5.1
70°-80°	256.7	2.6
80°-90°	69.9	0.7
90°-100°	95.7	1.0
100°-110°	304.2	3.1
110°-120°	520.6	5.3
120°-130°	684.6	6.9
130°-140°	768.4	7.8
140°-150°	753.5	7.6
150°-160°	632.1	6.4
160°-170°	419.2	4.2
170°-180°	146.5	1.5
0°-30°	1919.9	19.4
0°-40°	2981.4	30.2
0°-60°	4723.1	47.8
0°-90°	5548.4	56.2
90°-120°	920.5	9.3
90°-150°	3127.0	31.7
90°-180°	4325.0	43.8
0°-180°	9873.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2696	2696	2696	2696	2696	
5°	2696	2684	2652	2674	2666	256
15°	2564	2537	2454	2408	2384	722
25°	2327	2249	2088	1988	1952	1070
35°	2005	1881	1666	1513	1459	1255
45°	1639	1476	1220	1046	988	1266
55°	1246	1056	793	646	600	1114
65°	842	644	424	342	334	834
75°	449	278	195	178	176	475
85°	105	54	46	46	46	120
90°	1	17	46	43	44	10
95°	68	81	84	84	81	76
105°	281	284	287	290	290	296
115°	522	530	528	526	522	517
125°	760	771	768	764	762	679
135°	983	997	1000	999	995	760
145°	1193	1202	1210	1211	1206	745
155°	1364	1368	1372	1379	1374	628
165°	1484	1483	1483	1492	1486	419
175°	1544	1541	1538	1547	1539	147
180°	1547	1547	1547	1547	1547	

TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2695.7	2695.7	2695.7	2695.7	2695.7
2.5°	2707.9	2695.7	2668.8	2693.3	2688.4
5°	2695.7	2683.6	2651.7	2673.7	2666.4
7.5°	2673.7	2659.2	2625.0	2634.6	2622.4
10°	2644.4	2627.4	2578.7	2571.2	2556.7
12.5°	2608.0	2586.0	2519.9	2505.4	2478.5
15°	2563.9	2537.0	2454.2	2407.9	2383.5
17.5°	2512.7	2473.6	2371.1	2317.6	2278.4
20°	2454.2	2405.3	2283.4	2222.6	2168.7
22.5°	2390.8	2334.6	2193.1	2110.2	2073.7
25°	2327.4	2249.2	2088.2	1988.3	1951.6
27.5°	2251.8	2168.7	1990.6	1876.0	1819.8
30°	2171.3	2078.4	1883.3	1759.0	1693.0
32.5°	2093.1	1980.8	1781.0	1634.5	1573.4
35°	2005.4	1880.9	1666.3	1512.6	1458.7
37.5°	1919.9	1785.7	1558.9	1390.4	1329.6
40°	1829.7	1683.4	1446.6	1273.4	1210.0
42.5°	1737.0	1580.9	1334.5	1153.9	1093.0
45°	1639.4	1475.9	1219.8	1046.4	988.0
47.5°	1546.8	1373.6	1110.1	936.7	883.1
50°	1444.2	1271.1	1002.7	834.2	783.2
52.5°	1344.1	1161.1	900.2	739.2	692.9
55°	1246.5	1056.3	792.8	646.5	600.2
57.5°	1146.6	951.5	697.8	561.2	522.0
60°	1044.1	849.0	597.6	473.4	434.3
62.5°	944.2	749.0	512.3	395.3	375.9
65°	841.7	643.9	424.4	341.7	334.1
67.5°	744.1	546.4	341.7	299.9	292.8
70°	641.6	451.4	282.9	258.5	248.7
72.5°	544.0	363.4	236.6	217.2	212.2
75°	448.8	278.0	195.2	178.1	175.8
77.5°	353.8	197.5	153.8	143.9	139.0
80°	265.8	141.6	117.0	107.4	107.4
82.5°	185.3	95.2	80.5	75.6	75.6
85°	104.8	53.6	46.3	46.3	46.3
87.5°	39.1	19.4	19.4	17.1	17.1
90°	1.4	16.8	45.7	42.9	44.3
92.5°	28.9	39.2	40.6	42.0	42.0
95°	68.1	81.1	83.5	83.5	81.1
97.5°	113.3	125.5	130.6	130.6	130.6
100°	165.6	176.3	180.0	180.0	178.6
102.5°	220.6	228.5	233.7	235.1	233.7
105°	280.8	284.5	287.3	289.7	289.7
107.5°	340.5	346.1	346.1	347.0	340.5
110°	398.4	405.8	405.8	405.8	402.0

TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	460.8	468.7	467.3	463.6	460.8
115°	522.4	529.9	527.5	526.1	522.4
117.5°	583.5	593.8	587.2	583.5	579.8
120°	645.1	655.3	645.1	645.1	640.8
122.5°	701.0	714.0	707.5	703.8	701.0
125°	759.8	771.4	767.7	763.5	762.1
127.5°	817.2	831.6	826.5	820.9	817.2
130°	870.8	887.6	885.3	882.5	877.3
132.5°	931.0	944.0	944.9	938.4	934.7
135°	982.8	997.2	1000.0	998.6	994.8
137.5°	1040.6	1052.2	1054.6	1053.6	1048.1
140°	1091.4	1103.1	1109.6	1109.6	1104.5
142.5°	1143.6	1155.3	1159.0	1160.4	1155.3
145°	1193.1	1202.4	1209.9	1211.3	1206.2
147.5°	1237.4	1249.0	1254.7	1256.9	1251.8
150°	1283.1	1291.0	1296.2	1300.3	1296.2
152.5°	1323.6	1331.6	1338.1	1343.3	1338.1
155°	1364.2	1368.0	1372.1	1378.8	1374.5
157.5°	1399.2	1402.1	1404.4	1413.7	1407.2
160°	1430.5	1433.3	1434.7	1442.6	1437.0
162.5°	1459.4	1459.4	1460.8	1469.7	1463.1
165°	1484.1	1482.7	1482.7	1492.1	1485.6
167.5°	1506.5	1502.4	1502.4	1511.6	1505.1
170°	1523.3	1519.6	1518.2	1527.5	1519.6
172.5°	1535.0	1531.2	1529.8	1539.1	1531.2
175°	1544.3	1540.6	1537.7	1547.1	1539.1
177.5°	1549.4	1545.7	1542.9	1550.8	1542.9
180°	1547.1	1547.1	1547.1	1547.1	1547.1

TEST NUMBER: P916938

CATALOG NUMBER: DFN2DIP-PN4F0-080D060US930-RLLFLL

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	10.06	10.95	10.97	11.87	13.05	6.03	6.91	6.94	7.84	9.02
	3H	11.75	12.54	12.67	13.47	14.68	7.22	8.01	8.14	8.95	10.15
	4H	12.36	13.11	13.30	14.05	15.26	7.68	8.42	8.61	9.36	10.58
	6H	12.79	13.48	13.74	14.42	15.65	8.00	8.69	8.95	9.63	10.86
	8H	12.92	13.57	13.87	14.53	15.76	8.09	8.75	9.05	9.71	10.93
	12H	12.98	13.60	13.94	14.56	15.81	8.14	8.76	9.10	9.71	10.97
4H	2H	10.09	10.84	11.03	11.77	12.99	6.63	7.38	7.57	8.32	9.53
	3H	11.93	12.55	12.88	13.52	14.75	7.99	8.61	8.94	9.58	10.81
	4H	12.62	13.19	13.58	14.15	15.41	8.54	9.11	9.50	10.07	11.32
	6H	13.14	13.63	14.12	14.62	15.87	8.96	9.45	9.94	10.44	11.69
	8H	13.32	13.78	14.30	14.76	16.02	9.09	9.55	10.07	10.53	11.80
	12H	13.42	13.83	14.41	14.83	16.10	9.16	9.57	10.16	10.57	11.84
8H	4H	12.60	13.05	13.57	14.03	15.30	8.83	9.28	9.80	10.26	11.53
	6H	13.17	13.54	14.17	14.56	15.83	9.35	9.72	10.35	10.74	12.01
	8H	13.38	13.72	14.39	14.73	16.01	9.54	9.87	10.55	10.88	12.17
	12H	13.53	13.82	14.54	14.82	16.15	9.66	9.95	10.67	10.96	12.29
12H	4H	12.55	12.96	13.54	13.96	15.23	8.83	9.24	9.83	10.24	11.51
	6H	13.14	13.47	14.15	14.48	15.77	9.40	9.73	10.41	10.74	12.02
	8H	13.37	13.66	14.38	14.66	15.99	9.61	9.90	10.62	10.91	12.24

END OF REPORT