

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: P908762

Luminaire Tested: DFN2DIP-PN4F0-080D080US840-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P908762
REPORT IS A COMBINATION OF REPORTS P899690 AND P896497
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-080D080US840-RLLFLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

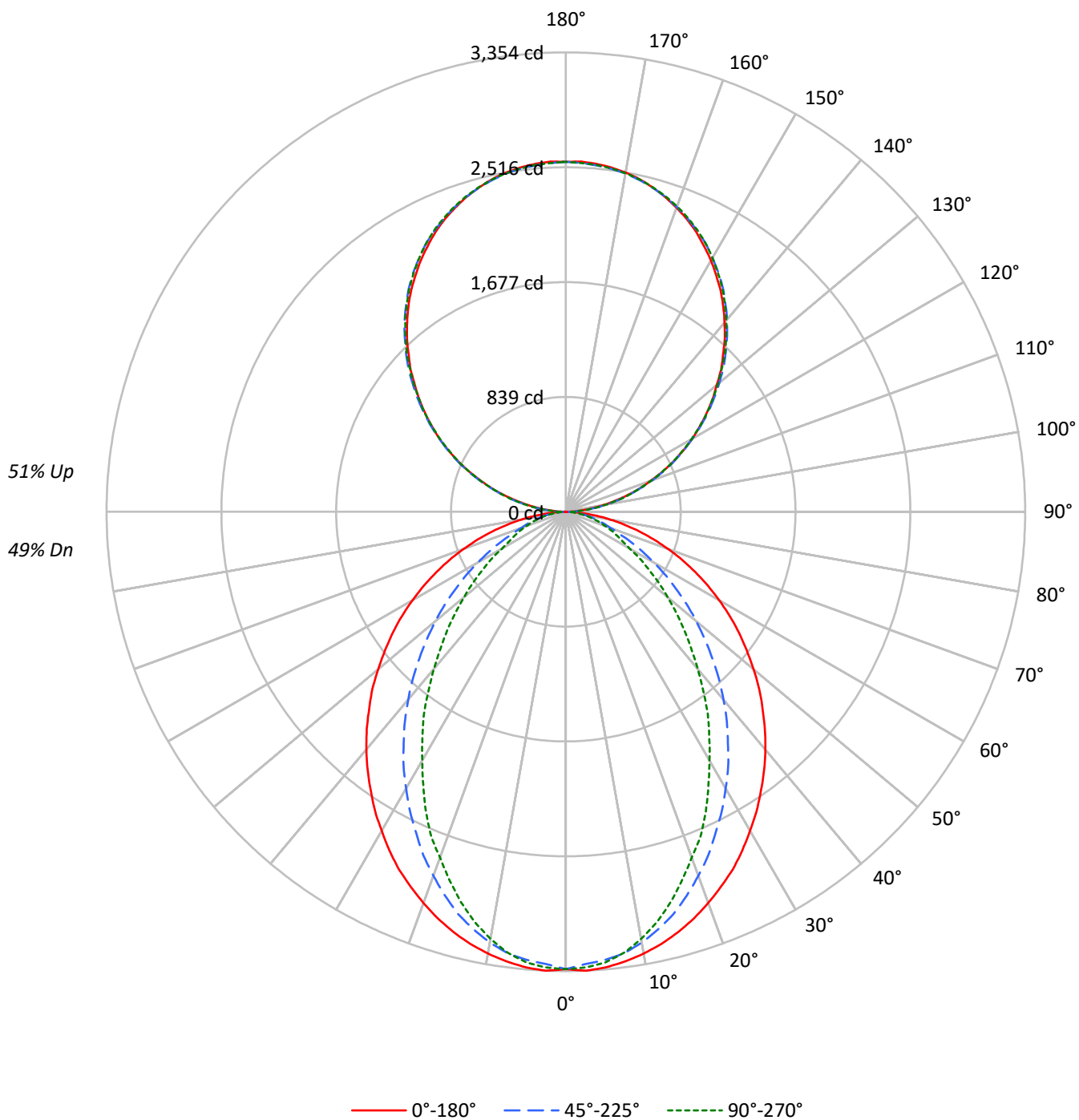
Lumens per Lamp: N/A
Luminaire Lumens: 14016.9 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 135.1
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: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-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	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2437	2437	2437
5°	2441	2399	2414
10°	2417	2352	2336
15°	2384	2275	2215
20°	2340	2168	2067
25°	2295	2048	1923
30°	2234	1925	1741
35°	2175	1793	1581
40°	2114	1656	1397
45°	2044	1504	1230
50°	1972	1351	1068
55°	1896	1187	911
60°	1808	1016	751
65°	1708	842	676
70°	1586	679	613
75°	1432	600	558
80°	1210	504	486
85°	843	338	368

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2044 cd/sqm

TEST NUMBER: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	312.9	2.2
10°-20°	859.1	6.1
20°-30°	1206.1	8.6
30°-40°	1314.7	9.4
40°-50°	1208.4	8.6
50°-60°	949.0	6.8
60°-70°	617.7	4.4
70°-80°	318.0	2.3
80°-90°	88.4	0.6
90°-100°	158.1	1.1
100°-110°	502.4	3.6
110°-120°	859.7	6.1
120°-130°	1130.6	8.1
130°-140°	1269.1	9.1
140°-150°	1244.5	8.9
150°-160°	1043.9	7.4
160°-170°	692.3	4.9
170°-180°	242.0	1.7
0°-30°	2378.1	17.0
0°-40°	3692.9	26.3
0°-60°	5850.2	41.7
0°-90°	6874.4	49.0
90°-120°	1520.1	10.8
90°-150°	5164.3	36.8
90°-180°	7143.0	51.0
0°-180°	14016.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3339	3339	3339	3339	3339	
5°	3339	3324	3284	3312	3303	317
15°	3176	3142	3040	2982	2952	895
25°	2883	2786	2587	2463	2417	1326
35°	2484	2330	2064	1874	1807	1555
45°	2031	1828	1511	1296	1224	1568
55°	1544	1308	982	801	744	1380
65°	1043	798	526	423	414	1034
75°	556	344	242	221	218	588
85°	130	66	57	57	57	149
90°	2	28	76	71	73	14
95°	112	134	138	138	134	125
105°	464	470	474	478	478	489
115°	863	875	871	869	863	853
125°	1255	1274	1268	1261	1259	1121
135°	1623	1647	1652	1649	1643	1254
145°	1970	1986	1998	2000	1992	1231
155°	2253	2259	2266	2277	2270	1037
165°	2451	2449	2449	2464	2453	691
175°	2550	2544	2540	2555	2542	242
180°	2555	2555	2555	2555	2555	

TEST NUMBER: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3339.0	3339.0	3339.0	3339.0	3339.0
2.5°	3354.1	3339.0	3305.7	3336.1	3330.0
5°	3339.0	3324.0	3284.5	3311.8	3302.8
7.5°	3311.8	3293.8	3251.5	3263.4	3248.2
10°	3275.5	3254.4	3194.1	3184.8	3166.8
12.5°	3230.4	3203.1	3121.3	3103.3	3070.0
15°	3175.8	3142.5	3039.9	2982.5	2952.3
17.5°	3112.3	3063.9	2937.0	2870.6	2822.2
20°	3039.9	2979.3	2828.3	2753.0	2686.2
22.5°	2961.3	2891.7	2716.4	2613.8	2568.6
25°	2882.8	2786.0	2586.6	2462.9	2417.3
27.5°	2789.1	2686.2	2465.7	2323.7	2254.1
30°	2689.5	2574.3	2332.7	2178.8	2097.0
32.5°	2592.6	2453.6	2206.1	2024.6	1948.9
35°	2484.0	2329.8	2064.0	1873.6	1806.9
37.5°	2378.1	2211.8	1931.0	1722.2	1646.9
40°	2266.3	2085.2	1791.8	1577.3	1498.7
42.5°	2151.5	1958.2	1652.9	1429.3	1353.8
45°	2030.6	1828.1	1511.0	1296.2	1223.8
47.5°	1915.9	1701.4	1375.0	1160.2	1093.9
50°	1788.9	1574.5	1242.0	1033.3	970.1
52.5°	1664.9	1438.1	1115.0	915.6	858.3
55°	1544.0	1308.4	982.0	800.8	743.5
57.5°	1420.3	1178.5	864.3	695.1	646.6
60°	1293.2	1051.6	740.2	586.3	538.0
62.5°	1169.5	927.8	634.5	489.6	465.5
65°	1042.6	797.6	525.7	423.2	413.8
67.5°	921.7	676.8	423.2	371.5	362.6
70°	794.8	559.2	350.4	320.2	308.1
72.5°	673.9	450.1	293.1	269.0	262.9
75°	555.9	344.4	241.8	220.6	217.7
77.5°	438.3	244.6	190.5	178.2	172.2
80°	329.2	175.4	144.9	133.0	133.0
82.5°	229.5	118.0	99.7	93.6	93.6
85°	129.9	66.3	57.4	57.4	57.4
87.5°	48.4	24.0	24.0	21.2	21.2
90°	2.3	27.8	75.5	70.9	73.2
92.5°	47.8	64.7	67.1	69.3	69.3
95°	112.5	134.0	137.8	137.8	134.0
97.5°	187.2	207.2	215.7	215.7	215.7
100°	273.5	291.1	297.3	297.3	295.0
102.5°	364.4	377.5	385.9	388.2	385.9
105°	463.7	469.9	474.5	478.4	478.4
107.5°	562.3	571.6	571.6	573.1	562.3
110°	657.8	670.1	670.1	670.1	664.0

TEST NUMBER: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	761.0	774.2	771.8	765.7	761.0
115°	862.7	875.0	871.2	868.9	862.7
117.5°	963.6	980.6	969.8	963.6	957.5
120°	1065.3	1082.3	1065.3	1065.3	1058.3
122.5°	1157.7	1179.3	1168.5	1162.4	1157.7
125°	1254.8	1274.0	1267.9	1260.9	1258.7
127.5°	1349.6	1373.4	1364.9	1355.7	1349.6
130°	1438.1	1465.8	1462.0	1457.4	1449.0
132.5°	1537.5	1559.0	1560.6	1549.8	1543.7
135°	1623.0	1646.9	1651.5	1649.2	1643.1
137.5°	1718.5	1737.8	1741.6	1740.1	1730.8
140°	1802.5	1821.7	1832.5	1832.5	1824.0
142.5°	1888.8	1908.0	1914.2	1916.5	1908.0
145°	1970.4	1985.8	1998.1	2000.4	1992.0
147.5°	2043.6	2062.9	2072.0	2076.0	2067.5
150°	2119.1	2132.1	2140.6	2147.6	2140.6
152.5°	2186.1	2199.2	2210.0	2218.5	2210.0
155°	2253.1	2259.3	2266.2	2276.9	2270.1
157.5°	2310.9	2315.5	2319.4	2334.7	2324.0
160°	2362.5	2367.1	2369.4	2382.5	2373.3
162.5°	2410.2	2410.2	2412.6	2427.2	2416.4
165°	2451.0	2448.7	2448.7	2464.2	2453.4
167.5°	2488.0	2481.1	2481.1	2496.5	2485.7
170°	2515.8	2509.6	2507.3	2522.7	2509.6
172.5°	2535.1	2528.9	2526.6	2541.9	2528.9
175°	2550.4	2544.3	2539.6	2555.1	2541.9
177.5°	2558.9	2552.7	2548.1	2561.2	2548.1
180°	2555.1	2555.1	2555.1	2555.1	2555.1

TEST NUMBER: P908762

CATALOG NUMBER: DFN2DIP-PN4F0-080D080US840-RLFL

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	10.16	10.98	11.13	11.96	13.25	6.12	6.95	7.09	7.93	9.21
	3H	11.84	12.57	12.82	13.56	14.87	7.31	8.05	8.29	9.04	10.35
	4H	12.45	13.14	13.44	14.14	15.46	7.76	8.46	8.76	9.45	10.77
	6H	12.87	13.51	13.88	14.51	15.84	8.08	8.72	9.09	9.72	11.05
	8H	13.00	13.61	14.01	14.62	15.95	8.17	8.78	9.19	9.80	11.12
	12H	13.06	13.64	14.08	14.65	16.00	8.22	8.80	9.24	9.81	11.16
4H	2H	10.17	10.87	11.18	11.86	13.18	6.72	7.41	7.72	8.41	9.73
	3H	12.01	12.58	13.02	13.61	14.94	8.07	8.65	9.08	9.67	11.00
	4H	12.70	13.23	13.72	14.24	15.60	8.62	9.15	9.64	10.16	11.52
	6H	13.22	13.67	14.25	14.71	16.06	9.04	9.49	10.07	10.53	11.88
	8H	13.40	13.82	14.43	14.85	16.22	9.17	9.59	10.20	10.62	11.99
	12H	13.49	13.87	14.54	14.92	16.29	9.23	9.61	10.28	10.66	12.03
8H	4H	12.67	13.09	13.70	14.12	15.49	8.90	9.32	9.93	10.35	11.72
	6H	13.24	13.59	14.29	14.66	16.02	9.42	9.77	10.47	10.84	12.21
	8H	13.46	13.76	14.52	14.82	16.20	9.61	9.92	10.67	10.98	12.36
	12H	13.60	13.87	14.66	14.92	16.35	9.73	10.00	10.79	11.05	12.48
12H	4H	12.62	13.00	13.67	14.05	15.42	8.90	9.29	9.95	10.33	11.70
	6H	13.21	13.52	14.27	14.58	15.96	9.47	9.78	10.53	10.83	12.22
	8H	13.43	13.71	14.50	14.76	16.18	9.68	9.95	10.74	11.00	12.43