

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: P907240

Luminaire Tested: DFN2DIP-TR3F0-080D080US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907240
REPORT IS A COMBINATION OF REPORTS P900352 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D080US835-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

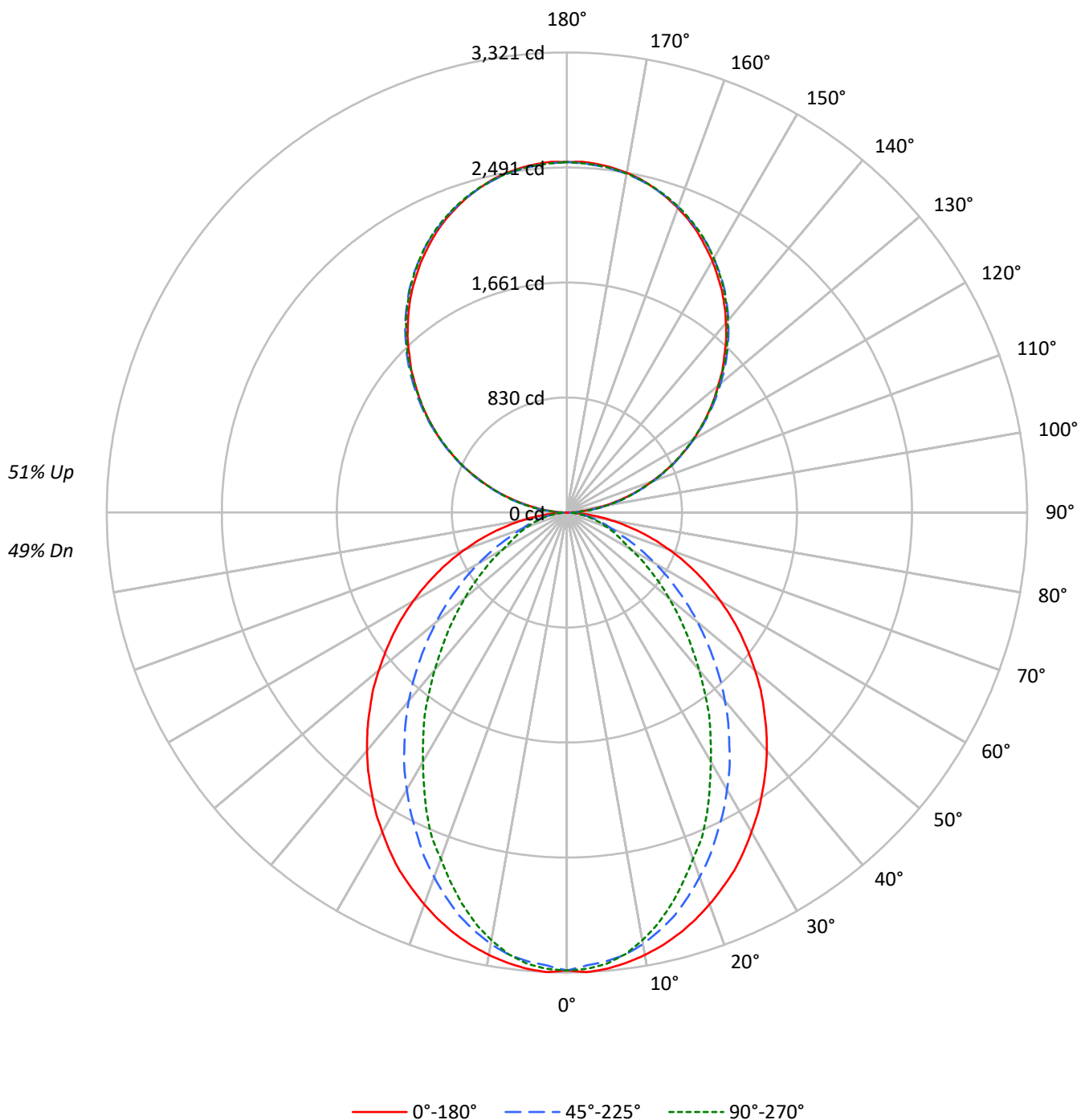
Lumens per Lamp: N/A
Luminaire Lumens: 13880.0 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 142
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907240

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US835-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P907240

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US835-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°	4120	4120	4120
5°	4124	4051	4078
10°	4081	3968	3943
15°	4023	3834	3735
20°	3946	3650	3481
25°	3868	3444	3236
30°	3763	3234	2926
35°	3661	3007	2654
40°	3556	2774	2342
45°	3435	2515	2060
50°	3309	2255	1784
55°	3178	1976	1520
60°	3026	1686	1249
65°	2851	1391	1120
70°	2638	1116	1010
75°	2370	977	913
80°	1983	809	783
85°	1350	523	573

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3435 cd/sqm

TEST NUMBER: P907240

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US835-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.9	2.2
10°-20°	850.7	6.1
20°-30°	1194.3	8.6
30°-40°	1301.9	9.4
40°-50°	1196.6	8.6
50°-60°	939.7	6.8
60°-70°	611.7	4.4
70°-80°	314.9	2.3
80°-90°	87.6	0.6
90°-100°	156.6	1.1
100°-110°	497.5	3.6
110°-120°	851.3	6.1
120°-130°	1119.6	8.1
130°-140°	1256.7	9.1
140°-150°	1232.3	8.9
150°-160°	1033.7	7.4
160°-170°	685.6	4.9
170°-180°	239.6	1.7
0°-30°	2354.9	17.0
0°-40°	3656.8	26.3
0°-60°	5793.1	41.7
0°-90°	6807.2	49.0
90°-120°	1505.3	10.8
90°-150°	5113.9	36.8
90°-180°	7073.0	51.0
0°-180°	13880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3306	3292	3252	3279	3270	314
15°	3145	3112	3010	2953	2924	886
25°	2855	2759	2561	2439	2394	1313
35°	2460	2307	2044	1855	1789	1540
45°	2011	1810	1496	1284	1212	1553
55°	1529	1296	972	793	736	1366
65°	1032	790	521	419	410	1024
75°	550	341	239	218	216	582
85°	129	66	57	57	57	148
90°	2	28	75	70	72	14
95°	111	133	136	136	133	124
105°	459	465	470	474	474	485
115°	854	866	863	860	854	845
125°	1242	1262	1256	1249	1246	1110
135°	1607	1631	1635	1633	1627	1242
145°	1951	1966	1979	1981	1972	1219
155°	2231	2237	2244	2255	2248	1027
165°	2427	2425	2425	2440	2429	685
175°	2526	2519	2515	2530	2517	240
180°	2530	2530	2530	2530	2530	

TEST NUMBER: P907240

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US835-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3306.4	3306.4	3306.4	3306.4	3306.4
2.5°	3321.3	3306.4	3273.4	3303.5	3297.5
5°	3306.4	3291.5	3252.4	3279.4	3270.5
7.5°	3279.4	3261.6	3219.7	3231.5	3216.5
10°	3243.5	3222.6	3162.9	3153.7	3135.9
12.5°	3198.8	3171.8	3090.8	3073.0	3040.0
15°	3144.8	3111.8	3010.2	2953.4	2923.5
17.5°	3081.9	3034.0	2908.3	2842.6	2794.6
20°	3010.2	2950.2	2800.7	2726.1	2660.0
22.5°	2932.4	2863.5	2689.9	2588.3	2543.5
25°	2854.6	2758.8	2561.3	2438.8	2393.7
27.5°	2761.9	2660.0	2441.6	2301.0	2232.1
30°	2663.2	2549.2	2309.9	2157.5	2076.5
32.5°	2567.3	2429.6	2184.5	2004.8	1929.9
35°	2459.7	2307.0	2043.8	1855.3	1789.2
37.5°	2354.9	2190.2	1912.1	1705.4	1630.8
40°	2244.2	2064.8	1774.3	1561.9	1484.1
42.5°	2130.5	1939.1	1636.8	1415.3	1340.6
45°	2010.8	1810.2	1496.2	1283.5	1211.8
47.5°	1897.2	1684.8	1361.6	1148.9	1083.2
50°	1771.4	1559.1	1229.9	1023.2	960.6
52.5°	1648.6	1424.1	1104.1	906.7	849.9
55°	1528.9	1295.6	972.4	793.0	736.2
57.5°	1406.4	1167.0	855.9	688.3	640.3
60°	1280.6	1041.3	733.0	580.6	532.7
62.5°	1158.1	918.7	628.3	484.8	461.0
65°	1032.4	789.8	520.6	419.1	409.8
67.5°	912.7	670.2	419.1	367.9	359.1
70°	787.0	553.7	347.0	317.1	305.1
72.5°	667.3	445.7	290.2	266.4	260.3
75°	550.5	341.0	239.4	218.4	215.6
77.5°	434.0	242.2	188.6	176.5	170.5
80°	326.0	173.7	143.5	131.7	131.7
82.5°	227.3	116.8	98.7	92.7	92.7
85°	128.6	65.7	56.8	56.8	56.8
87.5°	47.9	23.8	23.8	21.0	21.0
90°	2.3	27.5	74.8	70.2	72.5
92.5°	47.3	64.1	66.4	68.6	68.6
95°	111.4	132.7	136.5	136.5	132.7
97.5°	185.4	205.2	213.6	213.6	213.6
100°	270.8	288.3	294.4	294.4	292.1
102.5°	360.8	373.8	382.1	384.4	382.1
105°	459.2	465.3	469.9	473.7	473.7
107.5°	556.8	566.0	566.0	567.5	556.8
110°	651.4	663.6	663.6	663.6	657.5

TEST NUMBER: P907240

CATALOG NUMBER: DFN2DIP-TR3F0-080D080US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	753.6	766.6	764.3	758.2	753.6
115°	854.3	866.5	862.7	860.4	854.3
117.5°	954.2	971.0	960.3	954.2	948.1
120°	1054.9	1071.7	1054.9	1054.9	1048.0
122.5°	1146.4	1167.8	1157.1	1151.0	1146.4
125°	1242.5	1261.6	1255.5	1248.6	1246.4
127.5°	1336.4	1360.0	1351.6	1342.5	1336.4
130°	1424.1	1451.5	1447.7	1443.2	1434.8
132.5°	1522.5	1543.8	1545.4	1534.7	1528.6
135°	1607.1	1630.8	1635.4	1633.1	1627.0
137.5°	1701.7	1720.8	1724.6	1723.1	1713.9
140°	1784.9	1803.9	1814.6	1814.6	1806.2
142.5°	1870.3	1889.4	1895.5	1897.8	1889.4
145°	1951.2	1966.4	1978.6	1980.9	1972.5
147.5°	2023.6	2042.7	2051.8	2055.7	2047.3
150°	2098.4	2111.3	2119.7	2126.6	2119.7
152.5°	2164.7	2177.7	2188.4	2196.8	2188.4
155°	2231.1	2237.2	2244.1	2254.7	2247.9
157.5°	2288.3	2292.9	2296.7	2311.9	2301.3
160°	2339.4	2344.0	2346.3	2359.2	2350.1
162.5°	2386.7	2386.7	2389.0	2403.5	2392.8
165°	2427.1	2424.8	2424.8	2440.1	2429.4
167.5°	2463.7	2456.9	2456.9	2472.1	2461.4
170°	2491.2	2485.1	2482.8	2498.1	2485.1
172.5°	2510.3	2504.2	2501.9	2517.1	2504.2
175°	2525.5	2519.4	2514.8	2530.1	2517.1
177.5°	2533.9	2527.8	2523.2	2536.2	2523.2
180°	2530.1	2530.1	2530.1	2530.1	2530.1

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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	11.92	12.75	12.89	13.73	15.01	7.90	8.72	8.87	9.70	10.99
	3H	13.59	14.33	14.57	15.32	16.63	9.08	9.82	10.07	10.81	12.12
	4H	14.19	14.89	15.19	15.88	17.20	9.53	10.22	10.52	11.22	12.54
	6H	14.61	15.25	15.61	16.24	17.57	9.84	10.48	10.85	11.48	12.81
	8H	14.73	15.34	15.74	16.35	17.68	9.93	10.54	10.94	11.56	12.88
	12H	14.79	15.36	15.80	16.37	17.72	9.97	10.55	10.99	11.56	12.91
4H	2H	11.94	12.63	12.94	13.63	14.95	8.49	9.18	9.49	10.18	11.50
	3H	13.76	14.33	14.77	15.36	16.69	9.83	10.41	10.84	11.43	12.76
	4H	14.44	14.97	15.46	15.99	17.34	10.37	10.90	11.39	11.92	13.27
	6H	14.95	15.40	15.98	16.44	17.79	10.79	11.24	11.82	12.28	13.63
	8H	15.12	15.54	16.15	16.57	17.94	10.91	11.34	11.94	12.37	13.73
	12H	15.21	15.59	16.25	16.64	18.01	10.97	11.36	12.02	12.40	13.77
8H	4H	14.41	14.83	15.44	15.86	17.23	10.65	11.07	11.68	12.10	13.47
	6H	14.96	15.31	16.02	16.39	17.75	11.16	11.51	12.21	12.58	13.95
	8H	15.17	15.48	16.23	16.54	17.92	11.34	11.65	12.41	12.71	14.09
	12H	15.30	15.58	16.37	16.63	18.05	11.46	11.73	12.52	12.78	14.21
12H	4H	14.36	14.74	15.41	15.79	17.16	10.65	11.03	11.70	12.08	13.45
	6H	14.94	15.25	16.00	16.30	17.69	11.21	11.51	12.27	12.57	13.95
	8H	15.15	15.42	16.22	16.48	17.90	11.41	11.68	12.47	12.73	14.16