

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: P920934

Luminaire Tested: DFN2DIP-TR4F0-040D100US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920934
REPORT IS A COMBINATION OF REPORTS P900477 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-040D100US935-FLLFLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

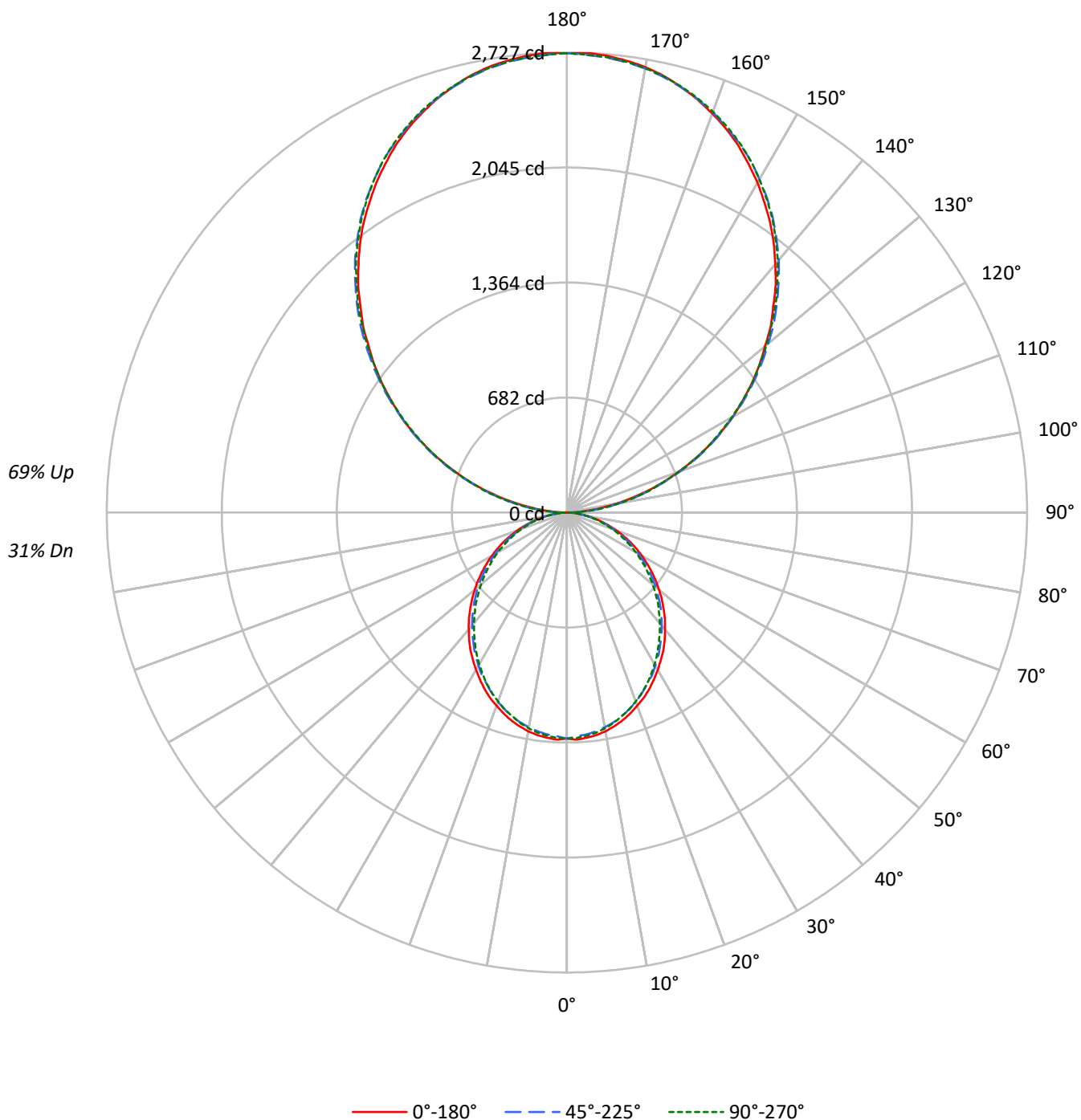
Lumens per Lamp: N/A
Luminaire Lumens: 11029.4 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 108.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39
1	94	89	86	82	84	80	77	74	64	61	60	48	47	46	34	33	33
2	85	78	72	67	76	70	65	61	56	52	49	42	40	38	30	29	27
3	78	68	61	56	69	62	56	51	49	45	41	37	35	32	27	25	23
4	71	60	53	47	63	55	48	43	44	39	35	33	30	28	24	22	20
5	65	54	46	40	58	49	42	37	39	34	30	30	26	24	21	19	17
6	60	48	40	35	54	44	37	32	35	30	26	27	23	21	19	17	15
7	55	43	36	30	49	39	33	28	32	27	23	24	21	18	18	15	14
8	51	39	32	27	46	36	29	24	29	24	20	22	19	16	16	14	12
9	47	36	28	24	43	32	26	22	26	21	18	20	17	15	15	13	11
10	44	33	26	21	40	30	24	19	24	19	16	19	15	13	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1065	1065	1065
5°	1066	1050	1057
10°	1058	1036	1042
15°	1042	1019	1020
20°	1021	995	997
25°	1000	966	971
30°	974	940	937
35°	949	909	901
40°	919	878	868
45°	888	846	833
50°	855	813	793
55°	820	775	756
60°	781	729	713
65°	738	682	664
70°	683	625	610
75°	607	557	560
80°	516	469	466
85°	373	318	308

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2123 cd/sqm

TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	1.1
10°-20°	354.9	3.2
20°-30°	521.5	4.7
30°-40°	605.7	5.5
40°-50°	605.0	5.5
50°-60°	527.5	4.8
60°-70°	389.9	3.5
70°-80°	220.6	2.0
80°-90°	66.0	0.6
90°-100°	168.5	1.5
100°-110°	535.4	4.9
110°-120°	916.2	8.3
120°-130°	1204.9	10.9
130°-140°	1352.5	12.3
140°-150°	1326.3	12.0
150°-160°	1112.6	10.1
160°-170°	737.8	6.7
170°-180°	257.9	2.3
0°-30°	1002.5	9.1
0°-40°	1608.3	14.6
0°-60°	2740.7	24.8
0°-90°	3417.3	31.0
90°-120°	1620.1	14.7
90°-150°	5503.8	49.9
90°-180°	7612.0	69.0
0°-180°	11029.4	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°	2	30	80	76	78	11
95°	120	143	147	147	143	133
105°	494	501	506	510	510	522
115°	920	932	928	926	920	909
125°	1337	1358	1351	1344	1341	1195
135°	1730	1755	1760	1758	1751	1337
145°	2100	2116	2130	2132	2123	1312
155°	2401	2408	2415	2427	2419	1105
165°	2612	2610	2610	2626	2615	737
175°	2718	2712	2707	2723	2709	258
180°	2723	2723	2723	2723	2723	

TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

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°	2.5	29.5	80.4	75.5	78.0
92.5°	50.9	69.0	71.5	73.9	73.9
95°	119.9	142.8	147.0	147.0	142.8
97.5°	199.5	220.8	229.9	229.9	229.9
100°	291.4	310.3	316.8	316.8	314.4
102.5°	388.3	402.3	411.3	413.7	411.3
105°	494.2	500.8	505.7	509.8	509.8
107.5°	599.3	609.2	609.2	610.8	599.3
110°	701.1	714.2	714.2	714.2	707.7

TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	811.1	825.0	822.6	816.0	811.1
115°	919.5	932.5	928.5	926.0	919.5
117.5°	1027.0	1045.1	1033.5	1027.0	1020.4
120°	1135.3	1153.4	1135.3	1135.3	1128.0
122.5°	1233.8	1256.8	1245.3	1238.8	1233.8
125°	1337.3	1357.8	1351.3	1343.8	1341.4
127.5°	1438.3	1463.7	1454.7	1444.8	1438.3
130°	1532.7	1562.2	1558.1	1553.2	1544.2
132.5°	1638.6	1661.6	1663.2	1651.7	1645.1
135°	1729.7	1755.1	1760.1	1757.6	1751.0
137.5°	1831.5	1852.0	1856.1	1854.5	1844.6
140°	1921.0	1941.5	1953.0	1953.0	1944.0
142.5°	2012.9	2033.4	2040.0	2042.5	2033.4
145°	2099.9	2116.3	2129.5	2131.9	2122.9
147.5°	2177.9	2198.5	2208.3	2212.4	2203.4
150°	2258.4	2272.3	2281.4	2288.7	2281.4
152.5°	2329.8	2343.7	2355.3	2364.3	2355.3
155°	2401.2	2407.8	2415.2	2426.6	2419.2
157.5°	2462.8	2467.7	2471.8	2488.2	2476.7
160°	2517.8	2522.7	2525.1	2539.1	2529.3
162.5°	2568.7	2568.7	2571.1	2586.7	2575.2
165°	2612.2	2609.7	2609.7	2626.1	2614.7
167.5°	2651.6	2644.2	2644.2	2660.7	2649.1
170°	2681.1	2674.6	2672.1	2688.6	2674.6
172.5°	2701.6	2695.1	2692.6	2709.0	2695.1
175°	2718.1	2711.5	2706.6	2723.0	2709.0
177.5°	2727.1	2720.6	2715.6	2729.5	2715.6
180°	2723.0	2723.0	2723.0	2723.0	2723.0

TEST NUMBER: P920934

CATALOG NUMBER: DFN2DIP-TR4F0-040D100US935-FLLFLL

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	5.40	6.11	6.50	7.21	8.73	4.97	5.68	6.07	6.78	8.30
	3H	7.05	7.69	8.16	8.80	10.33	6.58	7.21	7.69	8.32	9.86
	4H	7.63	8.24	8.75	9.35	10.89	7.16	7.76	8.28	8.87	10.41
	6H	8.02	8.58	9.15	9.69	11.25	7.55	8.10	8.68	9.22	10.77
	8H	8.12	8.65	9.26	9.78	11.33	7.65	8.18	8.78	9.31	10.85
	12H	8.16	8.67	9.30	9.79	11.36	7.68	8.19	8.82	9.31	10.88
4H	2H	5.84	6.45	6.97	7.56	9.10	5.50	6.10	6.63	7.22	8.76
	3H	7.70	8.20	8.83	9.34	10.89	7.30	7.81	8.44	8.95	10.50
	4H	8.40	8.87	9.54	9.99	11.57	8.00	8.46	9.14	9.59	11.16
	6H	8.91	9.31	10.06	10.46	12.02	8.50	8.90	9.65	10.05	11.61
	8H	9.06	9.43	10.20	10.57	12.15	8.64	9.02	9.79	10.16	11.74
	12H	9.12	9.46	10.28	10.61	12.20	8.70	9.04	9.86	10.19	11.78
8H	4H	8.59	8.96	9.73	10.10	11.68	8.23	8.60	9.37	9.74	11.32
	6H	9.21	9.52	10.38	10.70	12.28	8.85	9.16	10.02	10.34	11.92
	8H	9.43	9.70	10.60	10.86	12.46	9.06	9.33	10.23	10.49	12.09
	12H	9.56	9.79	10.73	10.95	12.58	9.17	9.41	10.35	10.57	12.20
12H	4H	8.57	8.90	9.73	10.06	11.64	8.21	8.55	9.38	9.70	11.29
	6H	9.24	9.51	10.41	10.67	12.27	8.89	9.16	10.06	10.32	11.92
	8H	9.48	9.71	10.65	10.87	12.50	9.12	9.35	10.29	10.51	12.15

END OF REPORT