

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: P920869

Luminaire Tested: DFN2DIP-TR3F0-080D050US935-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920869
REPORT IS A COMBINATION OF REPORTS P901830 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D050US935-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

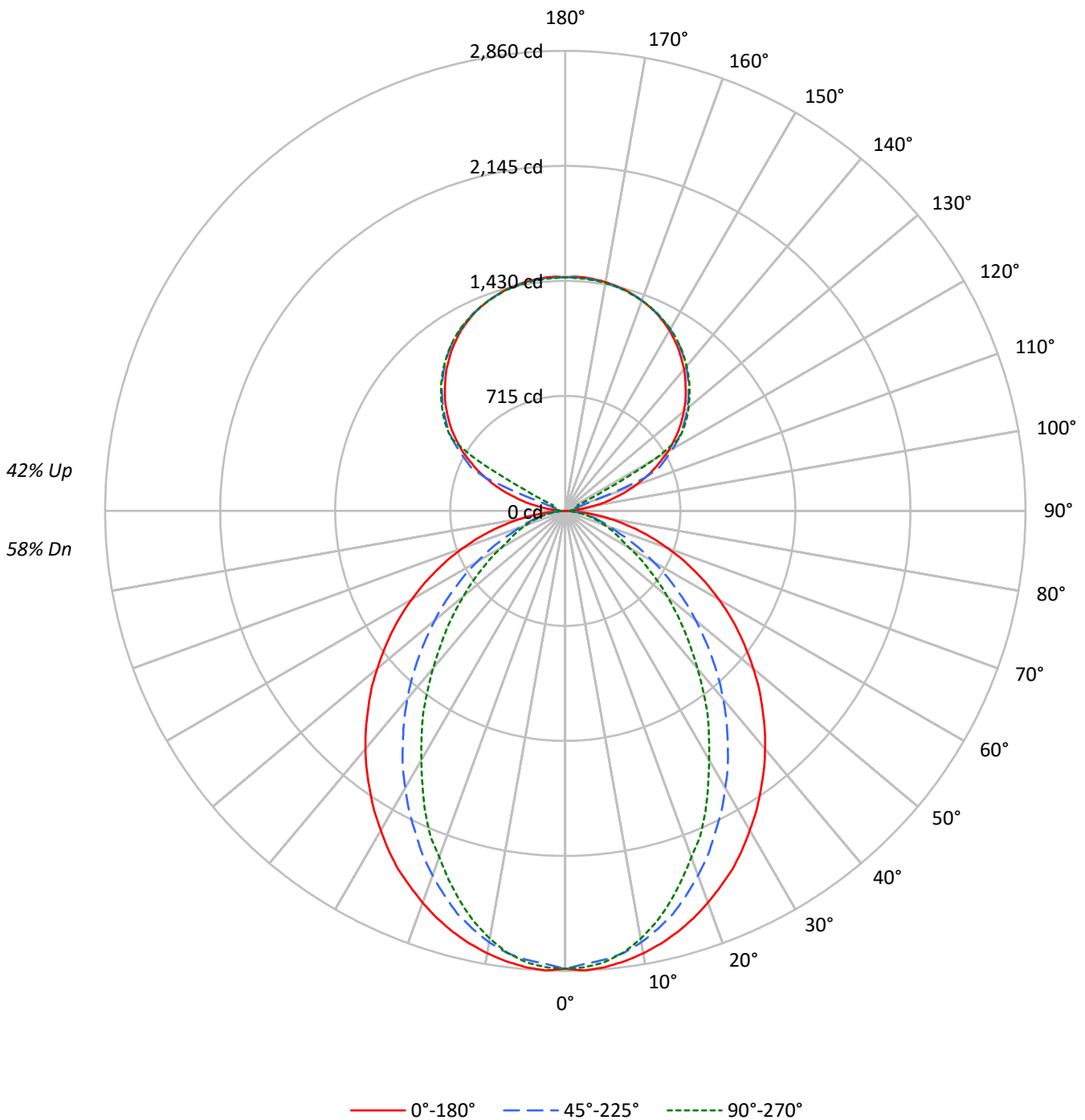
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10116.8 lumens
Efficiency: N/A
Efficacy: 85.7 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): 118
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: P920869
CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P920869

CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58			58
1	100	96	92	89	93	90	86	83	78	75	73	67	65	64	57	56	55	50			50
2	92	84	79	74	85	79	74	69	69	65	62	59	57	54	51	49	47	43			43
3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	43	41	37			37
4	77	67	59	53	72	62	56	50	55	49	45	48	44	40	41	38	35	32			32
5	71	60	52	46	66	56	49	44	49	44	39	43	39	35	37	34	31	28			28
6	66	54	46	40	61	51	43	38	45	39	35	39	35	31	34	31	28	25			25
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	28	25	22			22
8	57	44	37	32	53	42	35	30	37	32	28	33	28	25	29	25	23	20			20
9	53	41	33	28	49	39	32	27	34	29	25	30	26	23	27	23	20	18			18
10	49	38	30	26	46	36	29	25	32	26	23	28	24	21	25	21	19	17			17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3547	3547	3547
5°	3551	3488	3511
10°	3514	3417	3395
15°	3464	3301	3216
20°	3398	3143	2997
25°	3330	2965	2786
30°	3240	2784	2519
35°	3152	2589	2285
40°	3062	2388	2017
45°	2957	2166	1774
50°	2849	1941	1536
55°	2736	1702	1309
60°	2605	1452	1075
65°	2454	1198	965
70°	2271	961	870
75°	2041	841	786
80°	1708	696	674
85°	1162	451	493

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2957 cd/sqm



TEST NUMBER: P920869

CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.8	2.6
10°-20°	732.4	7.2
20°-30°	1028.3	10.2
30°-40°	1120.9	11.1
40°-50°	1030.3	10.2
50°-60°	809.1	8.0
60°-70°	526.6	5.2
70°-80°	271.1	2.7
80°-90°	71.8	0.7
90°-100°	47.9	0.5
100°-110°	178.6	1.8
110°-120°	473.7	4.7
120°-130°	785.6	7.8
130°-140°	834.5	8.2
140°-150°	775.6	7.7
150°-160°	623.5	6.2
160°-170°	401.8	4.0
170°-180°	138.3	1.4
0°-30°	2027.6	20.0
0°-40°	3148.5	31.1
0°-60°	4987.8	49.3
0°-90°	5857.4	57.9
90°-120°	700.2	6.9
90°-150°	3095.8	30.6
90°-180°	4259.0	42.1
0°-180°	10116.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2847	2847	2847	2847	2847	
5°	2847	2834	2800	2824	2816	270
15°	2708	2679	2592	2543	2517	763
25°	2458	2375	2205	2100	2061	1130
35°	2118	1986	1760	1597	1540	1326
45°	1731	1559	1288	1105	1043	1337
55°	1316	1116	837	683	634	1176
65°	889	680	448	361	353	881
75°	474	294	206	188	186	501
85°	111	57	49	49	49	127
90°	1	13	21	26	28	10
95°	68	34	41	46	45	81
105°	320	351	64	76	80	342
115°	604	622	649	162	86	595
125°	855	868	888	896	899	762
135°	1058	1074	1084	1094	1092	817
145°	1227	1226	1244	1251	1246	767
155°	1351	1342	1354	1360	1352	622
165°	1423	1417	1420	1428	1420	402
175°	1456	1449	1451	1458	1448	139
180°	1453	1453	1453	1453	1453	



TEST NUMBER: P920869

CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2846.8	2846.8	2846.8	2846.8	2846.8
2.5°	2859.6	2846.8	2818.4	2844.3	2839.1
5°	2846.8	2834.0	2800.3	2823.6	2815.9
7.5°	2823.6	2808.2	2772.2	2782.3	2769.4
10°	2792.6	2774.7	2723.3	2715.3	2700.0
12.5°	2754.2	2730.9	2661.2	2645.8	2617.4
15°	2707.7	2679.3	2591.8	2542.9	2517.1
17.5°	2653.5	2612.3	2504.0	2447.5	2406.1
20°	2591.8	2540.1	2411.4	2347.2	2290.3
22.5°	2524.8	2465.5	2316.0	2228.5	2189.9
25°	2457.8	2375.3	2205.3	2099.8	2061.0
27.5°	2378.0	2290.3	2102.2	1981.2	1921.8
30°	2293.0	2194.9	1988.8	1857.6	1787.9
32.5°	2210.4	2091.9	1880.8	1726.1	1661.6
35°	2117.8	1986.3	1759.7	1597.4	1540.5
37.5°	2027.6	1885.8	1646.3	1468.3	1404.1
40°	1932.3	1777.8	1527.7	1344.8	1277.8
42.5°	1834.4	1669.6	1409.3	1218.6	1154.3
45°	1731.3	1558.6	1288.2	1105.1	1043.4
47.5°	1633.5	1450.6	1172.3	989.2	932.6
50°	1525.2	1342.4	1058.9	881.0	827.1
52.5°	1419.4	1226.1	950.6	780.7	731.8
55°	1316.4	1115.5	837.2	682.8	633.9
57.5°	1210.9	1004.8	736.9	592.6	551.3
60°	1102.6	896.6	631.1	499.9	458.7
62.5°	997.1	791.0	541.0	417.4	396.9
65°	888.9	680.0	448.2	360.8	352.8
67.5°	785.8	577.0	360.8	316.8	309.2
70°	677.6	476.7	298.8	273.0	262.7
72.5°	574.5	383.7	249.9	229.4	224.1
75°	474.0	293.6	206.1	188.0	185.6
77.5°	373.7	208.5	162.4	152.0	146.8
80°	280.7	149.6	123.6	113.4	113.4
82.5°	195.7	100.6	85.0	79.8	79.8
85°	110.7	56.6	48.9	48.9	48.9
87.5°	41.2	20.5	20.5	18.1	18.1
90°	1.0	12.6	21.0	26.3	28.3
92.5°	26.3	22.1	25.2	27.4	28.3
95°	68.3	33.6	41.0	46.3	45.2
97.5°	123.0	36.9	53.6	56.8	57.8
100°	186.1	42.1	59.9	68.3	70.4
102.5°	255.5	253.4	62.1	73.5	76.8
105°	319.6	351.2	64.1	75.7	79.9
107.5°	394.3	420.4	66.3	77.7	82.1
110°	465.8	487.8	184.0	78.9	83.0



TEST NUMBER: P920869

CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	533.0	551.9	534.1	80.9	84.1
115°	604.5	622.3	648.7	162.0	86.3
117.5°	666.5	687.5	705.5	555.0	279.7
120°	735.9	751.7	770.6	783.2	641.3
122.5°	794.7	811.6	832.7	839.0	840.1
125°	854.6	868.4	888.4	895.7	898.9
127.5°	909.3	924.0	940.0	950.4	951.4
130°	960.9	977.7	989.2	1000.8	999.9
132.5°	1013.5	1027.2	1038.6	1048.2	1047.1
135°	1057.6	1074.5	1083.8	1094.5	1092.3
137.5°	1103.8	1116.5	1127.0	1137.6	1134.5
140°	1149.0	1157.5	1169.0	1178.4	1173.3
142.5°	1187.0	1194.4	1208.0	1216.3	1211.1
145°	1226.9	1225.8	1243.6	1251.0	1245.8
147.5°	1261.5	1258.3	1276.3	1281.5	1277.4
150°	1295.2	1287.9	1304.7	1311.0	1305.7
152.5°	1323.5	1315.2	1330.9	1337.3	1329.9
155°	1350.9	1341.5	1354.1	1360.4	1352.0
157.5°	1372.9	1364.6	1374.1	1381.5	1372.9
160°	1392.0	1385.6	1392.0	1398.2	1390.9
162.5°	1408.7	1402.5	1407.6	1415.0	1405.6
165°	1423.4	1417.2	1420.3	1427.6	1420.3
167.5°	1435.0	1428.7	1431.9	1439.2	1429.8
170°	1444.5	1438.1	1440.3	1447.6	1438.1
172.5°	1450.8	1444.5	1446.6	1454.0	1444.5
175°	1456.0	1448.6	1450.8	1458.1	1447.6
177.5°	1458.1	1450.8	1451.9	1459.2	1449.7
180°	1452.8	1452.8	1452.8	1452.8	1452.8



TEST NUMBER: P920869
 CATALOG NUMBER: DFN2DIP-TR3F0-080D050US935-RLONL

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	12.20	13.10	13.10	14.01	15.17	8.18	9.08	9.07	9.99	11.14
	3H	13.88	14.68	14.78	15.60	16.78	9.37	10.17	10.27	11.09	12.27
	4H	14.48	15.24	15.40	16.16	17.35	9.82	10.58	10.74	11.50	12.69
	6H	14.90	15.60	15.83	16.53	17.73	10.14	10.84	11.07	11.76	12.97
	8H	15.02	15.69	15.96	16.63	17.84	10.23	10.89	11.17	11.84	13.04
	12H	15.08	15.71	16.03	16.65	17.88	10.27	10.90	11.21	11.84	13.07
4H	2H	12.23	12.99	13.15	13.91	15.10	8.78	9.54	9.70	10.46	11.65
	3H	14.05	14.68	14.99	15.64	16.84	10.13	10.76	11.06	11.71	12.92
	4H	14.74	15.31	15.69	16.26	17.49	10.67	11.25	11.62	12.20	13.43
	6H	15.25	15.74	16.21	16.72	17.95	11.09	11.58	12.05	12.56	13.79
	8H	15.42	15.88	16.38	16.85	18.09	11.22	11.68	12.18	12.64	13.89
	12H	15.51	15.93	16.49	16.91	18.16	11.28	11.70	12.26	12.68	13.93
8H	4H	14.71	15.17	15.67	16.14	17.38	10.95	11.41	11.91	12.38	13.63
	6H	15.27	15.65	16.26	16.66	17.90	11.47	11.85	12.45	12.85	14.10
	8H	15.48	15.82	16.48	16.81	18.08	11.65	11.99	12.65	12.99	14.25
	12H	15.62	15.91	16.61	16.90	18.21	11.77	12.07	12.77	13.06	14.36
12H	4H	14.67	15.08	15.65	16.07	17.32	10.96	11.37	11.94	12.36	13.61
	6H	15.24	15.58	16.24	16.58	17.84	11.51	11.85	12.51	12.85	14.11
	8H	15.46	15.76	16.46	16.75	18.06	11.72	12.02	12.72	13.01	14.32