

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: P923484

Luminaire Tested: DFN2DIP-TR3F0-040D030US940-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923484
REPORT IS A COMBINATION OF REPORTS P900274 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D030US940-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

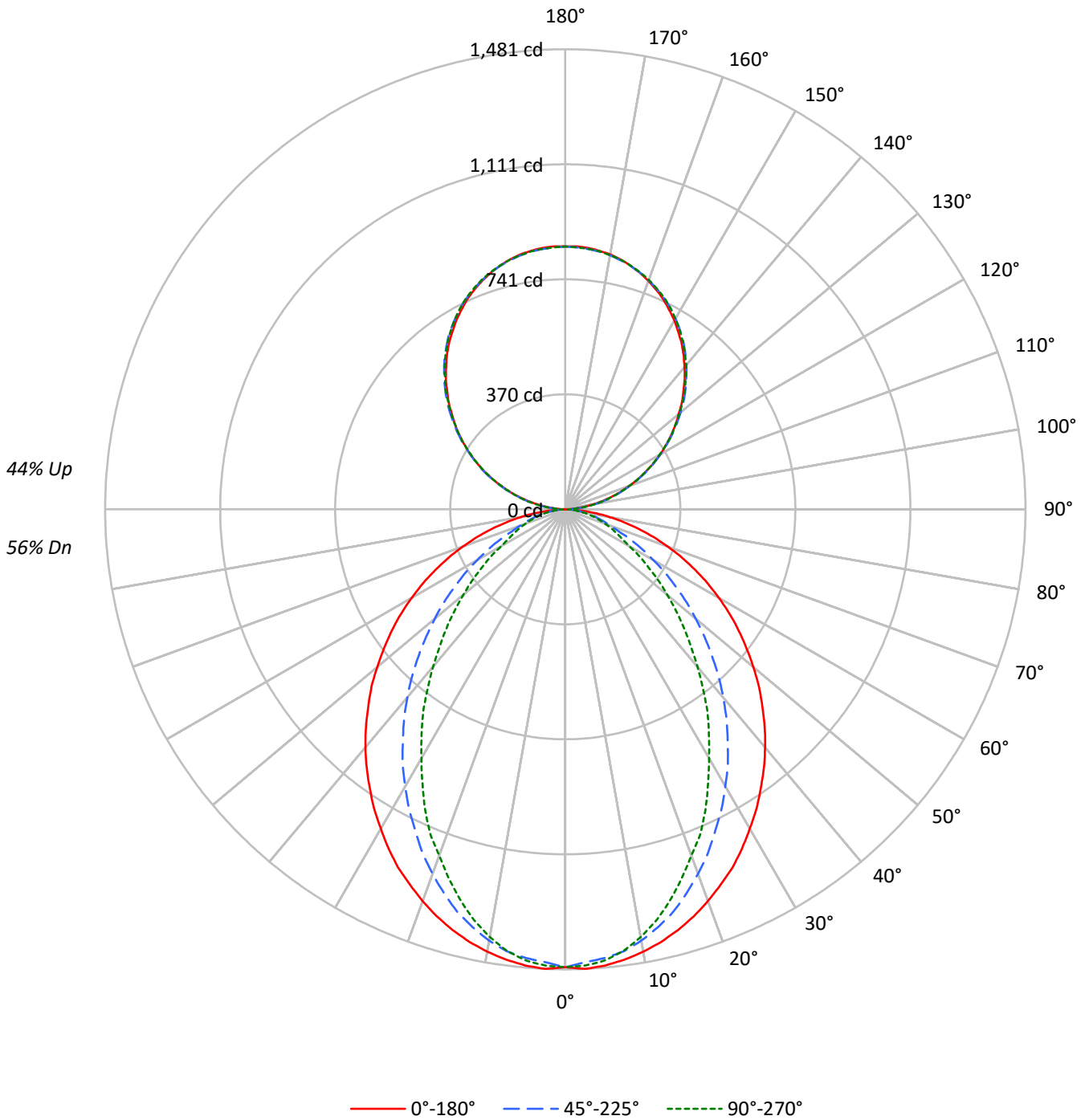
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5399.3 lumens
Efficiency: N/A
Efficacy: 93.6 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): 57.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P923484
CATALOG NUMBER: DFN2DIP-TR3F0-040D030US940-RLLFLL

Luminous Intensity Polar Plot





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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	101	101	101	101	87	87	87	74	74	74	62	62	62	56	56	56	56
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53	48	48	48	48
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46	41	41	41	41
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40	36	36	36	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31	31	31	31
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30	27	27	27	27
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27	24	24	24	24
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24	22	22	22	22
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20	20	20	20
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18	18	18	18
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16	16	16	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1837	1837	1837
5°	1839	1806	1818
10°	1820	1769	1758
15°	1794	1709	1665
20°	1759	1627	1552
25°	1724	1535	1443
30°	1678	1442	1305
35°	1632	1341	1183
40°	1586	1237	1044
45°	1531	1121	919
50°	1475	1005	796
55°	1417	881	678
60°	1349	752	557
65°	1271	620	500
70°	1176	498	450
75°	1057	435	407
80°	884	360	349
85°	602	233	255

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1531 cd/sqm



TEST NUMBER: P923484

CATALOG NUMBER: DFN2DIP-TR3F0-040D030US940-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	2.6
10°-20°	379.3	7.0
20°-30°	532.5	9.9
30°-40°	580.5	10.8
40°-50°	533.5	9.9
50°-60°	419.0	7.8
60°-70°	272.7	5.1
70°-80°	140.4	2.6
80°-90°	38.2	0.7
90°-100°	52.3	1.0
100°-110°	166.3	3.1
110°-120°	284.7	5.3
120°-130°	374.4	6.9
130°-140°	420.2	7.8
140°-150°	412.1	7.6
150°-160°	345.7	6.4
160°-170°	229.2	4.2
170°-180°	80.1	1.5
0°-30°	1049.9	19.4
0°-40°	1630.4	30.2
0°-60°	2582.9	47.8
0°-90°	3034.2	56.2
90°-120°	503.4	9.3
90°-150°	1710.0	31.7
90°-180°	2365.0	43.8
0°-180°	5399.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1474	1474	1474	1474	1474	
5°	1474	1468	1450	1462	1458	140
15°	1402	1387	1342	1317	1304	395
25°	1273	1230	1142	1087	1067	585
35°	1097	1029	911	827	798	686
45°	896	807	667	572	540	692
55°	682	578	434	354	328	609
65°	460	352	232	187	183	456
75°	245	152	107	97	96	260
85°	57	29	25	25	25	66
90°	1	9	25	24	24	5
95°	37	44	46	46	44	41
105°	154	156	157	158	158	162
115°	286	290	288	288	286	283
125°	416	422	420	418	417	371
135°	537	545	547	546	544	415
145°	652	658	662	662	660	408
155°	746	748	750	754	752	343
165°	812	811	811	816	812	229
175°	844	842	841	846	842	80
180°	846	846	846	846	846	



TEST NUMBER: P923484

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1474.2	1474.2	1474.2	1474.2	1474.2
2.5°	1480.9	1474.2	1459.5	1472.9	1470.2
5°	1474.2	1467.5	1450.1	1462.1	1458.2
7.5°	1462.1	1454.2	1435.6	1440.7	1434.1
10°	1446.2	1436.8	1410.2	1406.0	1398.2
12.5°	1426.2	1414.2	1378.0	1370.1	1355.4
15°	1402.1	1387.4	1342.1	1316.8	1303.5
17.5°	1374.1	1352.7	1296.6	1267.4	1246.0
20°	1342.1	1315.4	1248.7	1215.4	1186.0
22.5°	1307.4	1276.8	1199.3	1154.0	1134.1
25°	1272.7	1230.0	1141.9	1087.4	1067.2
27.5°	1231.5	1186.0	1088.6	1025.9	995.1
30°	1187.4	1136.6	1029.8	961.9	925.9
32.5°	1144.7	1083.2	973.9	893.9	860.4
35°	1096.7	1028.6	911.2	827.2	797.7
37.5°	1050.0	976.5	852.5	760.4	727.1
40°	1000.6	920.6	791.1	696.4	661.7
42.5°	949.8	864.5	729.8	631.0	597.7
45°	896.5	807.1	667.1	572.3	540.3
47.5°	845.9	751.2	607.1	512.3	483.0
50°	789.8	695.1	548.3	456.2	428.3
52.5°	735.0	635.0	492.3	404.2	378.9
55°	681.7	577.6	433.5	353.6	328.2
57.5°	627.1	520.3	381.6	306.8	285.5
60°	571.0	464.2	326.8	258.9	237.6
62.5°	516.4	409.7	280.1	216.2	205.5
65°	460.3	352.1	232.1	186.8	182.7
67.5°	407.0	298.8	186.8	164.1	160.1
70°	350.9	246.8	154.7	141.4	136.0
72.5°	297.6	198.8	129.4	118.8	116.1
75°	245.4	152.0	106.7	97.4	96.1
77.5°	193.5	108.0	84.1	78.7	76.0
80°	145.3	77.4	63.9	58.8	58.8
82.5°	101.4	52.1	44.1	41.3	41.3
85°	57.3	29.3	25.3	25.3	25.3
87.5°	21.4	10.6	10.6	9.4	9.4
90°	0.8	9.2	25.0	23.5	24.3
92.5°	15.8	21.4	22.2	22.9	22.9
95°	37.3	44.4	45.7	45.7	44.4
97.5°	62.0	68.6	71.4	71.4	71.4
100°	90.5	96.4	98.4	98.4	97.7
102.5°	120.6	125.0	127.8	128.6	127.8
105°	153.6	155.6	157.1	158.4	158.4
107.5°	186.2	189.2	189.2	189.8	186.2
110°	217.8	221.9	221.9	221.9	219.9



TEST NUMBER: P923484

CATALOG NUMBER: DFN2DIP-TR3F0-040D030US940-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	252.0	256.4	255.6	253.5	252.0
115°	285.7	289.7	288.5	287.8	285.7
117.5°	319.1	324.7	321.1	319.1	317.0
120°	352.8	358.4	352.8	352.8	350.4
122.5°	383.3	390.5	386.9	384.9	383.3
125°	415.5	421.9	419.8	417.5	416.8
127.5°	446.8	454.8	452.0	448.9	446.8
130°	476.2	485.4	484.1	482.6	479.7
132.5°	509.1	516.2	516.7	513.2	511.1
135°	537.4	545.3	546.9	546.1	544.0
137.5°	569.0	575.4	576.7	576.2	573.1
140°	596.8	603.2	606.8	606.8	604.0
142.5°	625.4	631.8	633.8	634.6	631.8
145°	652.5	657.5	661.6	662.4	659.6
147.5°	676.7	683.1	686.1	687.4	684.6
150°	701.7	706.1	708.8	711.1	708.8
152.5°	723.9	728.2	731.7	734.6	731.7
155°	746.1	748.1	750.4	753.9	751.7
157.5°	765.2	766.7	768.0	773.1	769.5
160°	782.3	783.8	784.6	788.9	785.9
162.5°	798.1	798.1	798.9	803.7	800.1
165°	811.6	810.8	810.8	815.9	812.3
167.5°	823.9	821.5	821.5	826.6	823.0
170°	833.0	831.0	830.3	835.4	831.0
172.5°	839.4	837.4	836.6	841.7	837.4
175°	844.5	842.5	841.0	846.1	841.7
177.5°	847.3	845.3	843.7	848.1	843.7
180°	846.1	846.1	846.1	846.1	846.1



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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	9.77	10.65	10.68	11.57	12.76	5.74	6.63	6.65	7.55	8.73
	3H	11.44	12.23	12.36	13.16	14.37	6.93	7.72	7.85	8.65	9.86
	4H	12.04	12.79	12.98	13.73	14.94	7.38	8.13	8.32	9.06	10.28
	6H	12.46	13.15	13.41	14.09	15.32	7.70	8.39	8.65	9.33	10.56
	8H	12.58	13.24	13.54	14.20	15.43	7.79	8.44	8.74	9.40	10.63
	12H	12.64	13.27	13.60	14.22	15.47	7.83	8.45	8.79	9.41	10.66
4H	2H	9.79	10.54	10.73	11.47	12.69	6.34	7.09	7.28	8.02	9.24
	3H	11.61	12.23	12.57	13.20	14.43	7.69	8.31	8.64	9.28	10.51
	4H	12.30	12.87	13.26	13.83	15.08	8.23	8.80	9.19	9.76	11.02
	6H	12.81	13.30	13.78	14.28	15.54	8.65	9.14	9.62	10.12	11.38
	8H	12.98	13.44	13.96	14.41	15.68	8.78	9.23	9.75	10.21	11.48
	12H	13.07	13.48	14.07	14.48	15.75	8.84	9.25	9.83	10.25	11.52
8H	4H	12.27	12.73	13.25	13.70	14.97	8.51	8.97	9.49	9.95	11.22
	6H	12.83	13.20	13.83	14.23	15.49	9.03	9.40	10.03	10.42	11.69
	8H	13.04	13.37	14.05	14.38	15.67	9.21	9.54	10.22	10.55	11.84
	12H	13.17	13.47	14.19	14.47	15.80	9.33	9.62	10.34	10.62	11.95
12H	4H	12.23	12.63	13.22	13.63	14.90	8.52	8.93	9.51	9.92	11.20
	6H	12.80	13.13	13.81	14.14	15.43	9.07	9.40	10.08	10.41	11.70
	8H	13.02	13.31	14.03	14.31	15.65	9.28	9.57	10.29	10.57	11.91