

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: P920677

Luminaire Tested: DFN2DIP-TR2F0-040D040US935-FLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920677
REPORT IS A COMBINATION OF REPORTS P901765 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-040D040US935-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

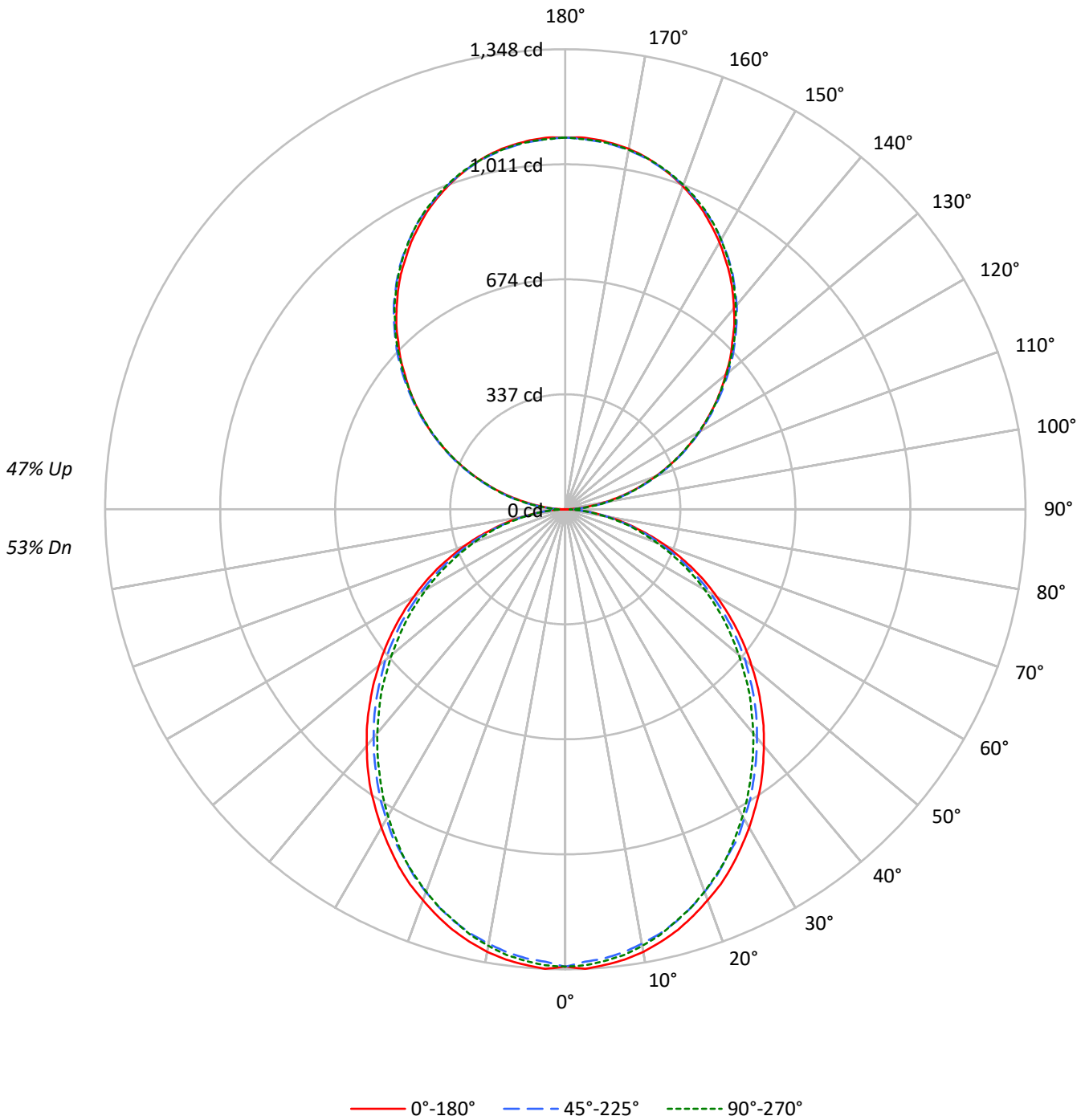
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6457.5 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P920677
CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P920677

CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	59	59	59	53
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	46	44	42	37
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36	41	38	36	32
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	33	29	27	24
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24	30	26	24	21
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21	27	24	21	18
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17	23	20	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2989	2989	2989
5°	2989	2941	2962
10°	2961	2894	2917
15°	2913	2840	2849
20°	2849	2767	2780
25°	2786	2682	2701
30°	2708	2601	2601
35°	2634	2508	2497
40°	2544	2413	2397
45°	2453	2317	2294
50°	2354	2217	2176
55°	2250	2101	2066
60°	2131	1965	1940
65°	2002	1822	1792
70°	1837	1648	1630
75°	1611	1440	1474
80°	1335	1174	1193
85°	910	741	740

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2453 cd/sqm



TEST NUMBER: P920677

CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	2.0
10°-20°	354.9	5.5
20°-30°	521.5	8.1
30°-40°	605.7	9.4
40°-50°	605.0	9.4
50°-60°	527.5	8.2
60°-70°	389.9	6.0
70°-80°	220.6	3.4
80°-90°	61.3	0.9
90°-100°	67.4	1.0
100°-110°	214.2	3.3
110°-120°	366.5	5.7
120°-130°	482.0	7.5
130°-140°	541.0	8.4
140°-150°	530.5	8.2
150°-160°	445.0	6.9
160°-170°	295.1	4.6
170°-180°	103.2	1.6
0°-30°	1002.5	15.5
0°-40°	1608.3	24.9
0°-60°	2740.7	42.4
0°-90°	3412.6	52.8
90°-120°	648.0	10.0
90°-150°	2201.5	34.1
90°-180°	3045.0	47.2
0°-180°	6457.5	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°	1	12	32	30	31	6
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	



TEST NUMBER: P920677

CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

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°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1



TEST NUMBER: P920677

CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2



TEST NUMBER: P920677
 CATALOG NUMBER: DFN2DIP-TR2F0-040D040US935-FLLONL

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	11.21	12.09	12.14	13.04	14.27	10.78	11.67	11.71	12.62	13.85
	3H	12.84	13.64	13.79	14.60	15.85	12.38	13.18	13.33	14.14	15.39
	4H	13.42	14.17	14.38	15.13	16.40	12.96	13.71	13.92	14.67	15.94
	6H	13.80	14.49	14.77	15.46	16.74	13.34	14.03	14.31	15.00	16.28
	8H	13.90	14.56	14.87	15.54	16.82	13.44	14.10	14.41	15.09	16.36
	12H	13.94	14.57	14.92	15.55	16.84	13.47	14.10	14.46	15.08	16.38
4H	2H	11.66	12.41	12.62	13.38	14.64	11.32	12.08	12.29	13.04	14.30
	3H	13.50	14.13	14.48	15.12	16.40	13.12	13.75	14.09	14.74	16.02
	4H	14.20	14.77	15.18	15.76	17.06	13.80	14.38	14.79	15.37	16.67
	6H	14.69	15.19	15.69	16.20	17.50	14.30	14.79	15.29	15.80	17.10
	8H	14.83	15.29	15.83	16.30	17.61	14.43	14.90	15.43	15.90	17.21
	12H	14.90	15.31	15.91	16.33	17.65	14.49	14.91	15.51	15.93	17.25
8H	4H	14.39	14.85	15.38	15.85	17.17	14.04	14.50	15.03	15.50	16.82
	6H	14.99	15.37	16.01	16.42	17.73	14.64	15.02	15.66	16.07	17.38
	8H	15.20	15.53	16.23	16.57	17.90	14.84	15.18	15.87	16.21	17.54
	12H	15.31	15.61	16.35	16.64	18.01	14.94	15.24	15.98	16.27	17.64
12H	4H	14.37	14.79	15.39	15.81	17.13	14.03	14.45	15.04	15.47	16.78
	6H	15.02	15.36	16.05	16.39	17.72	14.68	15.01	15.70	16.05	17.37
	8H	15.24	15.54	16.28	16.57	17.94	14.90	15.19	15.93	16.22	17.59