

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: P920916

Luminaire Tested: DFN2DIP-TR4F0-040D050US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920916
REPORT IS A COMBINATION OF REPORTS P900388 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-040D050US935-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

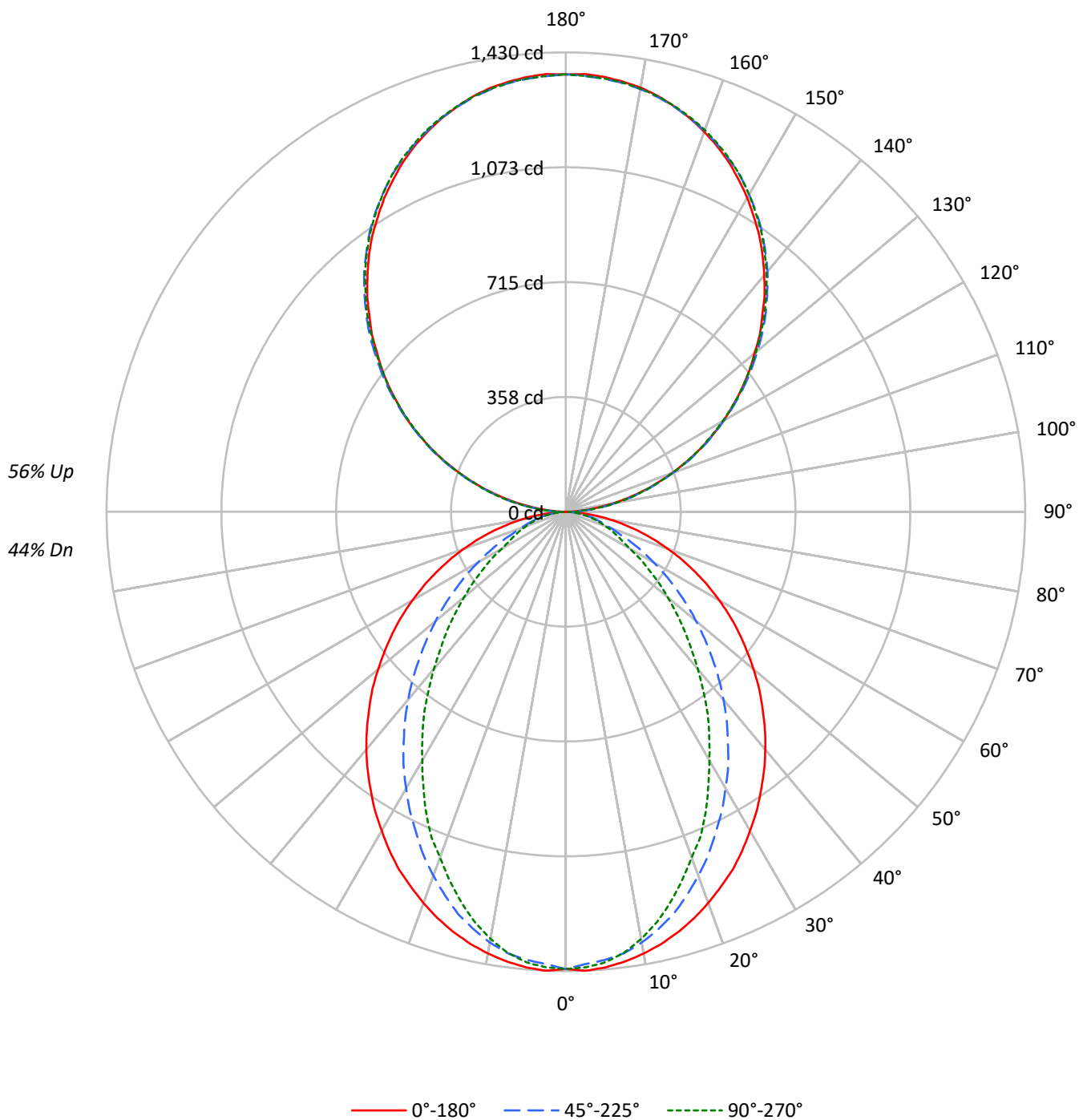
Lumens per Lamp: N/A
Luminaire Lumens: 6737.3 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 69.8
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: P920916

CATALOG NUMBER: DFN2DIP-TR4F0-040D050US935-RLLFLL

Luminous Intensity Polar Plot



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CATALOG NUMBER: DFN2DIP-TR4F0-040D050US935-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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50
1	97	93	89	86	88	85	82	79	70	68	66	57	56	54	45	44	43
2	88	81	75	71	81	75	70	65	62	59	55	51	48	46	40	38	37
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	32	30	28
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25
6	63	51	43	38	57	47	41	35	40	35	31	33	29	26	27	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18
9	50	39	31	26	46	36	29	25	31	25	22	26	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1131	1131	1131
5°	1133	1113	1120
10°	1121	1091	1083
15°	1106	1055	1027
20°	1086	1005	958
25°	1065	949	891
30°	1037	892	807
35°	1009	831	732
40°	981	767	647
45°	949	697	570
50°	915	626	494
55°	880	550	421
60°	839	470	347
65°	792	389	312
70°	736	314	282
75°	664	277	257
80°	561	232	223
85°	392	155	167

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1061 cd/sqm

TEST NUMBER: P920916

CATALOG NUMBER: DFN2DIP-TR4F0-040D050US935-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.4	2.0
10°-20°	366.2	5.4
20°-30°	514.2	7.6
30°-40°	560.5	8.3
40°-50°	515.1	7.6
50°-60°	404.5	6.0
60°-70°	263.3	3.9
70°-80°	135.6	2.0
80°-90°	38.5	0.6
90°-100°	84.2	1.3
100°-110°	267.7	4.0
110°-120°	458.1	6.8
120°-130°	602.5	8.9
130°-140°	676.3	10.0
140°-150°	663.1	9.8
150°-160°	556.3	8.3
160°-170°	368.9	5.5
170°-180°	128.9	1.9
0°-30°	1013.8	15.0
0°-40°	1574.2	23.4
0°-60°	2493.9	37.0
0°-90°	2931.2	43.5
90°-120°	810.0	12.0
90°-150°	2751.9	40.8
90°-180°	3806.0	56.5
0°-180°	6737.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1423	1417	1400	1412	1408	135
15°	1354	1340	1296	1271	1259	382
25°	1229	1188	1103	1050	1030	565
35°	1059	993	880	799	770	663
45°	866	779	644	553	522	668
55°	658	558	419	341	317	588
65°	444	340	224	180	176	441
75°	237	147	103	94	93	251
85°	55	28	24	24	24	64
90°	1	15	40	38	39	7
95°	60	72	73	73	72	67
105°	247	250	253	255	255	261
115°	460	466	464	463	460	455
125°	669	679	676	672	671	598
135°	865	878	880	879	876	669
145°	1050	1058	1065	1066	1061	656
155°	1201	1204	1208	1213	1210	553
165°	1306	1305	1305	1313	1307	368
175°	1359	1356	1353	1362	1354	129
180°	1362	1362	1362	1362	1362	

TEST NUMBER: P920916

CATALOG NUMBER: DFN2DIP-TR4F0-040D050US935-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1423.4	1423.4	1423.4	1423.4	1423.4
2.5°	1429.9	1423.4	1409.2	1422.2	1419.5
5°	1423.4	1416.9	1400.2	1411.8	1408.0
7.5°	1411.8	1404.1	1386.1	1391.1	1384.7
10°	1396.4	1387.3	1361.6	1357.6	1350.0
12.5°	1377.1	1365.5	1330.6	1322.9	1308.7
15°	1353.8	1339.6	1295.9	1271.4	1258.6
17.5°	1326.8	1306.1	1252.0	1223.7	1203.1
20°	1295.9	1270.1	1205.7	1173.5	1145.1
22.5°	1262.4	1232.8	1158.0	1114.2	1095.0
25°	1228.9	1187.7	1102.6	1049.9	1030.4
27.5°	1189.0	1145.1	1051.1	990.6	960.9
30°	1146.5	1097.4	994.4	928.8	894.0
32.5°	1105.3	1045.9	940.4	863.1	830.8
35°	1058.9	993.2	879.9	798.7	770.2
37.5°	1013.8	942.9	823.1	734.2	702.1
40°	966.1	888.9	763.9	672.4	638.9
42.5°	917.1	834.7	704.6	609.2	577.1
45°	865.6	779.3	644.1	552.6	521.7
47.5°	816.7	725.3	586.2	494.6	466.3
50°	762.6	671.1	529.4	440.5	413.5
52.5°	709.7	613.1	475.4	390.3	365.8
55°	658.2	557.8	418.6	341.4	316.9
57.5°	605.5	502.4	368.4	296.3	275.7
60°	551.3	448.2	315.6	249.9	229.4
62.5°	498.6	395.5	270.4	208.7	198.5
65°	444.4	340.0	224.1	180.4	176.4
67.5°	393.0	288.5	180.4	158.4	154.5
70°	338.8	238.3	149.4	136.6	131.3
72.5°	287.3	191.9	124.9	114.7	112.1
75°	236.9	146.8	103.1	94.0	92.8
77.5°	186.8	104.3	81.2	76.0	73.4
80°	140.3	74.7	61.7	56.7	56.7
82.5°	97.9	50.3	42.5	39.9	39.9
85°	55.4	28.3	24.5	24.5	24.5
87.5°	20.7	10.2	10.2	9.0	9.0
90°	1.2	14.8	40.2	37.8	39.0
92.5°	25.5	34.4	35.7	36.9	36.9
95°	59.9	71.5	73.4	73.4	71.5
97.5°	99.7	110.4	114.9	114.9	114.9
100°	145.7	155.2	158.4	158.4	157.2
102.5°	194.2	201.1	205.6	206.9	205.6
105°	247.1	250.4	252.9	254.9	254.9
107.5°	299.6	304.5	304.5	305.4	299.6
110°	350.5	357.1	357.1	357.1	353.8

TEST NUMBER: P920916

CATALOG NUMBER: DFN2DIP-TR4F0-040D050US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	405.5	412.5	411.3	408.0	405.5
115°	459.7	466.3	464.3	463.0	459.7
117.5°	513.5	522.5	516.8	513.5	510.2
120°	567.7	576.7	567.7	567.7	564.0
122.5°	616.9	628.4	622.7	619.4	616.9
125°	668.7	678.9	675.6	671.9	670.7
127.5°	719.1	731.8	727.4	722.4	719.1
130°	766.4	781.1	779.0	776.6	772.1
132.5°	819.3	830.8	831.6	825.9	822.6
135°	864.9	877.5	880.0	878.8	875.5
137.5°	915.8	926.0	928.1	927.2	922.3
140°	960.4	970.8	976.5	976.5	972.0
142.5°	1006.4	1016.8	1020.0	1021.2	1016.8
145°	1050.0	1058.2	1064.7	1066.0	1061.4
147.5°	1089.0	1099.2	1104.1	1106.2	1101.6
150°	1129.2	1136.2	1140.6	1144.4	1140.6
152.5°	1164.9	1171.9	1177.6	1182.2	1177.6
155°	1200.6	1203.8	1207.5	1213.3	1209.6
157.5°	1231.4	1233.8	1235.9	1244.1	1238.4
160°	1258.9	1261.4	1262.6	1269.5	1264.6
162.5°	1284.4	1284.4	1285.6	1293.4	1287.6
165°	1306.1	1304.8	1304.8	1313.1	1307.3
167.5°	1325.8	1322.1	1322.1	1330.3	1324.6
170°	1340.6	1337.3	1336.1	1344.3	1337.3
172.5°	1350.8	1347.5	1346.3	1354.5	1347.5
175°	1359.1	1355.7	1353.3	1361.5	1354.5
177.5°	1363.6	1360.3	1357.8	1364.8	1357.8
180°	1361.5	1361.5	1361.5	1361.5	1361.5

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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	6.93	7.71	7.95	8.73	10.09	2.90	3.68	3.92	4.70	6.07
	3H	8.60	9.30	9.63	10.33	11.71	4.09	4.79	5.12	5.82	7.20
	4H	9.21	9.87	10.25	10.90	12.29	4.54	5.20	5.58	6.23	7.62
	6H	9.63	10.23	10.68	11.27	12.68	4.86	5.46	5.91	6.50	7.90
	8H	9.75	10.33	10.81	11.38	12.78	4.95	5.52	6.00	6.58	7.98
	12H	9.81	10.36	10.87	11.41	12.83	4.99	5.54	6.05	6.58	8.01
4H	2H	6.94	7.60	7.99	8.63	10.03	3.49	4.15	4.54	5.19	6.58
	3H	8.77	9.31	9.82	10.38	11.78	4.84	5.39	5.89	6.45	7.85
	4H	9.46	9.96	10.52	11.01	12.44	5.38	5.89	6.44	6.94	8.37
	6H	9.97	10.40	11.04	11.47	12.90	5.80	6.23	6.87	7.31	8.73
	8H	10.14	10.54	11.21	11.61	13.05	5.93	6.33	7.00	7.40	8.84
	12H	10.23	10.60	11.32	11.68	13.12	5.99	6.36	7.08	7.44	8.88
8H	4H	9.42	9.82	10.49	10.89	12.33	5.66	6.06	6.73	7.13	8.57
	6H	9.98	10.32	11.08	11.43	12.86	6.18	6.51	7.27	7.62	9.05
	8H	10.20	10.49	11.30	11.59	13.04	6.37	6.66	7.47	7.76	9.21
	12H	10.34	10.59	11.44	11.68	13.17	6.49	6.74	7.59	7.83	9.33
12H	4H	9.37	9.73	10.46	10.82	12.26	5.66	6.03	6.75	7.11	8.55
	6H	9.96	10.25	11.06	11.34	12.80	6.23	6.52	7.33	7.61	9.07
	8H	10.18	10.43	11.28	11.52	13.02	6.44	6.69	7.54	7.78	9.27

END OF REPORT