

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: P920762

Luminaire Tested: DFN2DIP-TR3F0-040D050US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P920762
REPORT IS A COMBINATION OF REPORTS P900301 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D050US935-FLLFLL
Description: 3 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

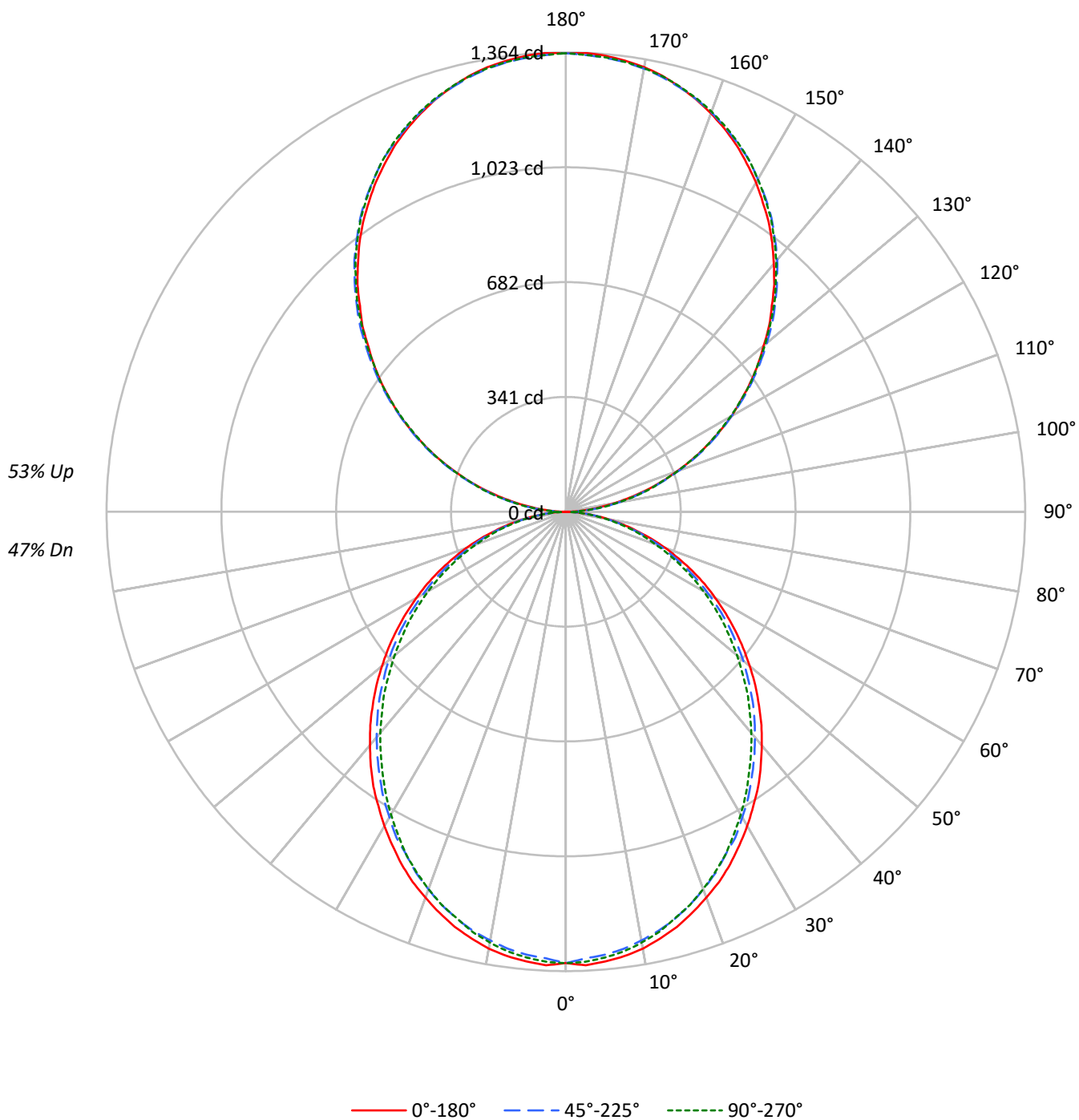
Lumens per Lamp: N/A
Luminaire Lumens: 7219.4 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 72.1
Input Voltage (V): 120
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

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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45
2	88	81	75	70	81	75	69	65	63	59	56	52	49	47	42	40	38
3	81	71	64	58	74	66	59	54	55	51	47	46	42	39	37	35	32
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28
5	68	56	48	42	62	52	45	39	44	39	34	37	33	29	30	27	24
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	21
7	58	45	38	32	53	42	35	30	36	30	26	30	26	23	25	21	19
8	54	41	34	28	49	38	31	27	33	27	23	28	23	20	23	19	17
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15
10	47	35	27	23	43	32	26	21	28	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1670	1670	1670
5°	1672	1645	1657
10°	1657	1622	1633
15°	1632	1594	1597
20°	1598	1555	1560
25°	1564	1509	1517
30°	1522	1467	1464
35°	1482	1416	1407
40°	1434	1366	1353
45°	1384	1315	1297
50°	1331	1261	1233
55°	1275	1200	1173
60°	1212	1126	1106
65°	1142	1050	1026
70°	1054	957	939
75°	932	846	857
80°	784	704	705
85°	554	464	455

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1384 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	1.7
10°-20°	354.9	4.9
20°-30°	521.5	7.2
30°-40°	605.7	8.4
40°-50°	605.0	8.4
50°-60°	527.5	7.3
60°-70°	389.9	5.4
70°-80°	220.6	3.1
80°-90°	62.1	0.9
90°-100°	84.2	1.2
100°-110°	267.7	3.7
110°-120°	458.1	6.3
120°-130°	602.5	8.3
130°-140°	676.3	9.4
140°-150°	663.1	9.2
150°-160°	556.3	7.7
160°-170°	368.9	5.1
170°-180°	128.9	1.8
0°-30°	1002.5	13.9
0°-40°	1608.3	22.3
0°-60°	2740.7	38.0
0°-90°	3413.4	47.3
90°-120°	810.0	11.2
90°-150°	2751.9	38.1
90°-180°	3806.0	52.7
0°-180°	7219.4	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°	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	

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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°	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

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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	8.74	9.58	9.72	10.57	11.88	8.31	9.15	9.29	10.15	11.45
	3H	10.39	11.14	11.38	12.15	13.48	9.92	10.67	10.91	11.68	13.01
	4H	10.97	11.68	11.98	12.69	14.03	10.50	11.22	11.51	12.22	13.56
	6H	11.36	12.02	12.38	13.03	14.38	10.89	11.55	11.91	12.56	13.91
	8H	11.46	12.09	12.48	13.11	14.46	11.00	11.62	12.02	12.65	13.99
	12H	11.51	12.10	12.53	13.12	14.49	11.03	11.63	12.06	12.65	14.02
4H	2H	9.20	9.91	10.21	10.91	12.25	8.86	9.57	9.87	10.57	11.91
	3H	11.05	11.64	12.07	12.68	14.03	10.66	11.26	11.68	12.29	13.64
	4H	11.76	12.30	12.78	13.33	14.70	11.36	11.90	12.38	12.93	14.30
	6H	12.26	12.73	13.30	13.78	15.15	11.86	12.33	12.90	13.38	14.75
	8H	12.41	12.84	13.44	13.89	15.27	12.00	12.44	13.04	13.48	14.87
	12H	12.47	12.87	13.53	13.93	15.32	12.06	12.45	13.12	13.51	14.90
8H	4H	11.95	12.38	12.99	13.43	14.81	11.59	12.03	12.63	13.07	14.46
	6H	12.57	12.93	13.63	14.01	15.40	12.21	12.57	13.27	13.65	15.04
	8H	12.78	13.10	13.85	14.17	15.57	12.42	12.73	13.49	13.80	15.21
	12H	12.91	13.18	13.98	14.25	15.69	12.53	12.81	13.60	13.87	15.32
12H	4H	11.93	12.33	12.99	13.38	14.78	11.58	11.98	12.64	13.03	14.43
	6H	12.59	12.91	13.66	13.98	15.39	12.25	12.57	13.32	13.63	15.04
	8H	12.83	13.11	13.90	14.17	15.62	12.48	12.76	13.55	13.82	15.26